Service
Service
Service

201T1SB/00
221T1SB/00

Service Manual

Description	Page	Description	Page
Table of Contents	1	6.1 Scaler Board	22
Revision List	2	6.2 Power Board	36
Important Safety Notice	3	6.3 IR Board	38
1. General Specifications	5	6.4 Key Board	39
2. TV Monitor Description	6	7. PCB Layout	40
3. Operation Instructions	7	7.1 Scaler Board	40
3.1 Front and Side Controls	7	7.2 Power Board	42
3.2 Remote Control	8	7.3 IR Board	44
3.3 Connection Overview	10	7.4 Key Board	44
4. Input/output Specification	13	8. Wiring Diagram	45
4.1 Input Signal Connector	13	9. Scaler Board Overview	46
4.2 Factory Preset Display Modes	14	10. Mechanical Instructions	47
4.3 Pixel Defect Policy	15	11. Trouble Shooting	50
4.4 Failure Mode of Panel	17	12. ISP Instructions	53
5. Block Diagram	18	13. White Balance, Luminance Adjustment	54
5.1 Software Flow Chart	18	14. Monitor Exploded View	55
5.2 Electrical Block Diagram	20	15. Recommended & Spare Parts List	56
6. Schematic Diagram	22	16. General Product Specification	60

SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFOMER FOR THIS UNIT WHEN SERVICING

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

Copyright 2009 Philips Consumer Lifestyle Subject to modification ® Jun, 26, 2009

飛利浦 PHILIPS

Downloaded from www.Manualslib.com manuals search engine

Revision List

Version	Release Date	Revision History
A00	Jun, 26,2009	Initial release, Draft Version
A01	Jul,09,2009	Add CTV Model 201T1SB/00

Downloaded from www.Manualslib.com manuals search engine

Important Safety Notice

Read and understand all instructions before you use your TV. If damage is caused by failure to follow instructions, the warranty does not apply.

Safety

- Risk of electric shock or fire!
  - Never expose the TV to rain or water. Never place liquid containers. Such as vases, near the TV. If liquids are spilt on or into the TV, disconnect the TV from the power outlet immediately. Contact Philips Consumer Care to have the TV checked before use.
  - Never place the TV, remote control or batteries near naked flames or other heat source, including direct sunlight. To prevent the spread of fire, keep candles or other flames away from the TV, remote control and batteries at all time.

  - Never insert objects into the ventilation slots or other openings on the TV.
  - When the TV is swiveled ensure that no strain is exerted on the power cord. Strain on the power cord can loosen connections and cause arcing.
- Risk of short circuit or fire!
  - Never expose the remote control or batteries to rain, water or excessive heat.
  - Avoid force coming onto power plugs. Loose power plugs can cause arcing or fire.
- Risk of injury or damage to the TV!
  - Two people are required to lift and carry a TV that weights more than 25 kg.
  - When stand mounting the TV, use only the supplied stand. Secure the stand to the TV tightly. Place the TV on a flat, level surface that can support the combined weight of the TV and stand.
  - When wall mounting the TV, use only a wall mount that can support the weight of the TV. Secure the wall mount to a wall can support the combined weight of the TV and wall mount. Koninklijke Philips Electronics N.V. bears on responsibility for improper wall mounting that result in accident, injury or damage.
- Risk of injury to children! Follow these precautions to prevent the TV from toppling over and causing injury to children:
  - Never place the TV on a surface covered by a cloth or other material that can be pulled away.
  - Ensure that no part of the TV hangs over the edge of the surface.
  - Never place the TV on tall furniture (such as a bookcase) without anchoring both the furniture and TV to the wall or a suitable support
  - Educate children about the dangers of climbing on furniture to reach the TV.
- Risk of overheating! Never install the TV in a confined space. Always leave a space of at least 4 inches around the TV for ventilation. Ensure curtains or other objects never cover the ventilation slots on the TV.
- Risk of damage to the TV! Before you connect the TV to the power outlet, ensure that the power voltage matches the value printed on the back of the TV. Never connect the TV to the power outlet if the voltage is different.
- Risk of injury, fire or power cord damage! Never place the TV or any objects on the power cord.

Downloaded from www.Manualslib.com manuals search engine

- To easily disconnect the TV power cord from the power outlet, ensure that you have full access to the power cord at all times.
- When you disconnect the power cord, always pull the plug, never the cable.
- Disconnect the TV from the power outlet and aerial before lightning storms. During lightning storms, never touch any part of the TV, power cord or aerial cable.
- Risk of hearing damage! Avoid using earphones or headphones at high volumes or for prolonged periods of time.
- If the TV is transported in temperatures below 5℃, unpack the TV and wait until the TV temperature matches room temperature before connecting the TV to the power outlet.

Screen Care

- Avoid stationary images as much as possible. Stationary images are images that remain on-screen for extended periods of time. Examples include: on-screen menus, black bars and time displays. If you must use stationary images, reduce screen contrast and brightness to avoid screen damage.
- Unplug the TV before cleaning.
- Clean the TV and frame with a soft, damp cloth. Never use substances such as alcohol, chemicals or household cleaners on the TV.
- Risk of damage to the TV screen! Never touch, push, rub or strike the screen with any object.
- To avoid deformations and color fading, wipe off water drops as soon as possible.

Recycling

Your product is designed and manufactured with high quality materials and components, which can be recycled and reused. When you see the crossed-out wheeled bin symbol attached to a product, it means the product is covered by the European Directive 2002/96/EC:

Never dispose of your product with other household waste. Please inform yourself about the local rules on the separate collection of electrical and electronic products. The correct disposal of your old product helps prevent potentially negative consequences for the environment and human health.

Your product contains batteries covered by the European Directive 2006/66/EC, which cannot be disposed of with normal household waste.

Please inform yourself about the local rules on the separate collection of batteries. The correct disposal of batteries helps prevent potentially negative consequences for the environment and human health.

The most updated user manual on line

The contents of the user manual are subject to change. Please refer to www.philips.com/supp ort for the most updated user manual info reference.

Downloaded from www.Manualslib.com manuals search engine

1. General Specifications

Model		201T1	221T1
Picture / Display	Aspect Ratio	16:9	
	Resolution	1600 x 900 @ 60Hz	1920 x 1080 @ 60Hz
Sound Output (RMS Watts)		3.0W x 2	
Sound Mode		Mono, Stereo, SAP (Secondary Audio Program)	
Picture Formats		Super zoom, 4:3, Movie expand 14:9, Movie expand 16:9, 16:9 subtitle, Widescreen, Auto	
Smart Mode		Personal, Vivid, Standard, Movie, Game, Power saver	
Rear Connectors		YPbPr: Component video input + Audio L/R (support 480i/p, 576i/p,720p, 1080i/p)	
		HDMI (Ver. 1.3a HDMI, support video: 480i/p, 576i/p, 720p, 1080i/p)	
		PC IN: VGA, PC Audio IN	
		RS232 connector	
		SCART1 input / output :CVBS in/out, RGB in, S-Video in, Audio L/R in/out	
		SPDIF (digital audio) output: carrying stereo or multi-channel output.	
Side Connectors		CI slot input : PCMCIA card (5V)	
		Composite video input + Audio L/R	
		USB 4-pin Type-A connector for SW update	
Power Consumption		< 50 W	< 35W (TBD)
Off mode power		< 0.5W	
Mains Power		100~240V, 50Hz	
Ambient temperature		5 to 40 degrees Celsius	
Tuner / Reception / Transmission		Antenna input: 75 ohm coaxial (IEC75)	
		DVT: DVB Terrestrial, DVB- T MPEG4	
		TV system: DVB COFDM 2K / 8K; PAL I, B/G, D/K; SECAM B/G, D/K, L/L'	
		Video playback: NTSC, SECAM, PAL	
		Tuner Bands: Hyperband, S-channel, UHF, VHF	

Note: Product information is subject to change without notice. For detailed product information, go to www.philips.com/support.

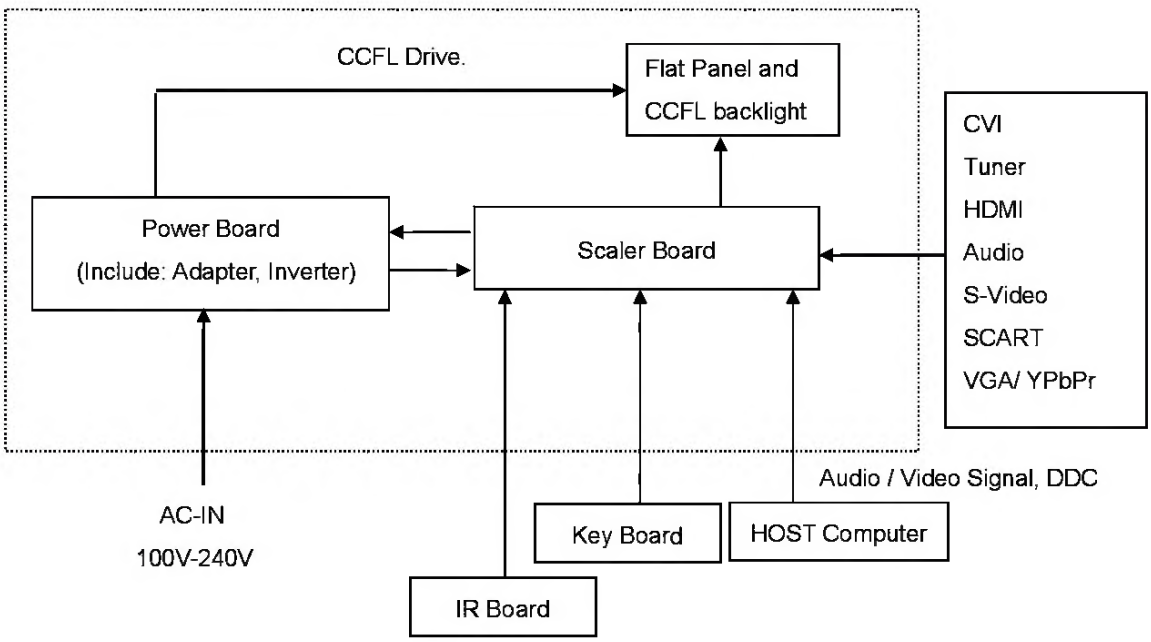
Downloaded from www.Manualslib.com manuals search engine

2. TV Monitor Description

The TV monitor will contain a scaler board, a power board, an IR board and a key board. The scaler board houses the flat panel control logic, brightness control logic and DDC.

The power board will provide AC to DC Inverter voltage to drive the backlight of panel and the scaler board chips each voltage.

TV Monitor Block Diagram

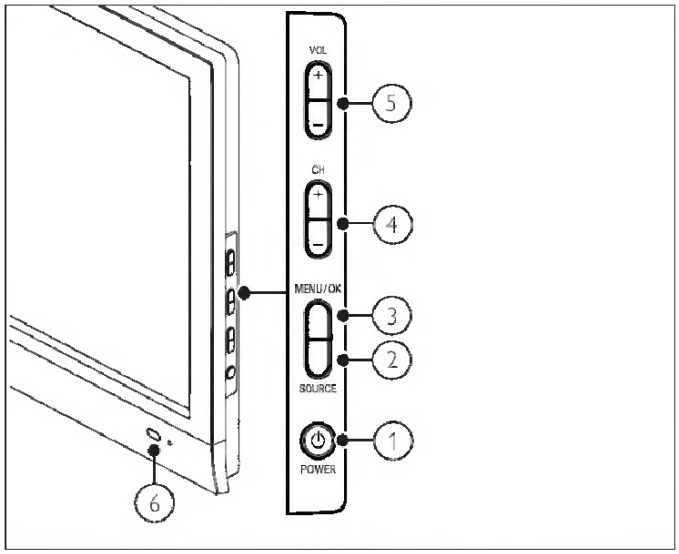


Downloaded from www.Manualslib.com manuals search engine

3. Operating Instructions

3.1 Front and side controls

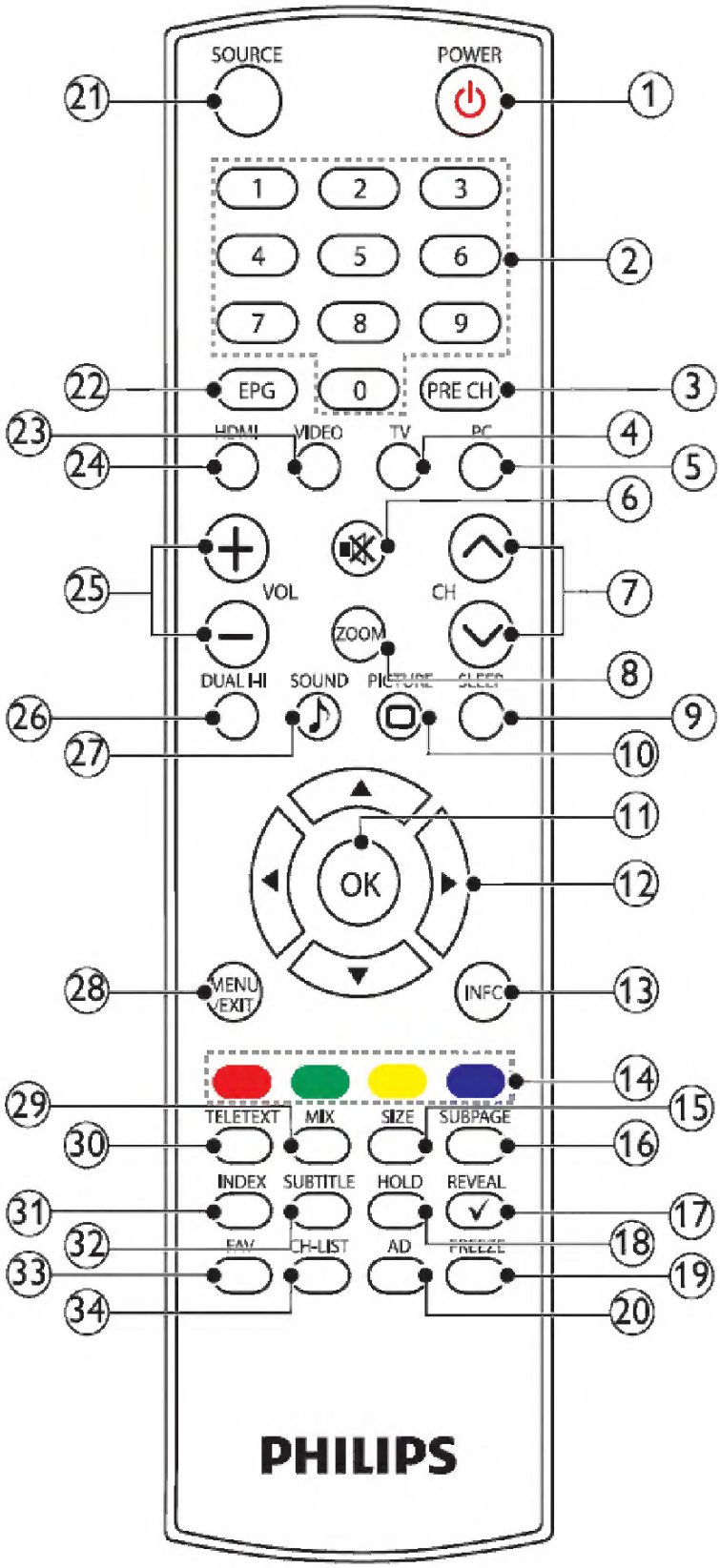
Side Controls and indicators



1. **POWER**: Switches the TV on or off. The TV is not powered off completely unless it is physically unplugged.
2. **SOURCE**: Selects connected devices.
3. **MENU/OK**: Displays the on-screen menu and confirms a selection in menus.
4. **CH +/-:** Switches to the next or previous channel.
5. **VOL+/-:** Increases or decreases volume.
6. **Power indicator:** Red LED: In standby mode or off. Green LED: Power on.

Downloaded from www.Manualslib.com manuals search engine

3.2 Remote Control

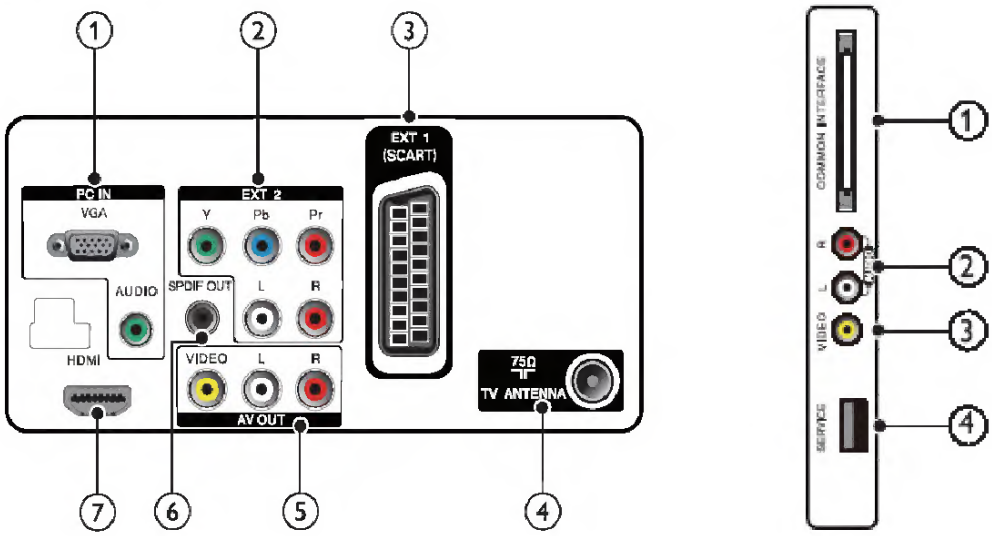


Downloaded from www.Manualslib.com manuals search engine

1. **(Standby-On):** Switch the TV to standby if the TV is on. Switch the TV on if the TV is in standby.
2. **0-9 (Numeric buttons)**: Select a channel or setting.
3. **PRE CH**: Return to the previously viewed channel.
4. **TV.** Press to choose TV mode.
5. **PC**. Press to choose PC mode.
6. **(Mute)**: Switch the sound on or off.
7. **CH Λ / V (Channel Λ / V)**: Switch to the next or previous channel.
8. **ZOOM**: Toggle among screen formats.
9. **SLEEP:** Toggle to select the preset time to switch the TV to standby mode automatically.
10. **PICTURE**: Toggle to select the Smart Picture setting.
11. **OK**: Confirm an entry or selection and display the channel grid, when watching TV.
12. **▲ ▼ ◄ ► (Navigation buttons)**: Navigate through the menus.
13. **INFO**: Display or hide the information screen about the selected channel.
14. **Color buttons**: Select tasks or options.
15. **SIZE:** Toggle to change the font size in Teletext mode. (Full screen / Top half / Bottom half)
16. **SUBPAGE**: Display the sub page when the Teletext information has more than one page.
17. **REVEAL**: Reveal hidden information of Teletext.
18. **HOLD:** Toggle to stop the scrolling of pages to stop the text decoder receiving data.
19. **FREEZE**: Press to freeze the TV picture.
20. **AD (Audio Description) (For RF Digital TV only)**: UK only: Enables audio commentary for the visually handicapped.
21. **SOURCE**: Select connected devices.
22. **EPG**; Switch the Electronic Program Guide On or Off.
23. **VIDEO**: Press to switch to VIDEO YPbPr /Composite /SCART mode.
24. **HDMI**: Press to switch to HDMI mode.
25. **VOL +/-**: Increase or decrease the volume.
26. **DUAL I-II**: Toggle to select mono / stereo / dual I/dual II from TV RF input.
27. **SOUND**: Toggle to select the Smartsound Mode.
28. **MENU/EXIT**: Press to open or close the on-screen menu.
29. **MIX**: Press to overlay the Teletext page on the TV picture.
30. **TELETEXT**: Press to open or close the Teletext.
31. **INDEX**: Press to display the index page of Teletext.
32. **SUBTITLE:** In TV mode: Press to turn the subtitle on or off. In Text mode: Press to open the subtitle page.
33. **FAV**: Press to display the Favorite List.
34. **CH-LIST**: Press to display the Channel List.

Downloaded from www.Manualslib.com manuals search engine

3.3 Connection overview



Rear Connectors

1. **PC IN:** Audio and video input from a computer. (see Fig-1)
2. **EXT 2 (Y PbPr and AUDIO L/R)**: Analogue audio and video input from analogue or digital devices such as DVD players or game consoles. (see Fig-2)

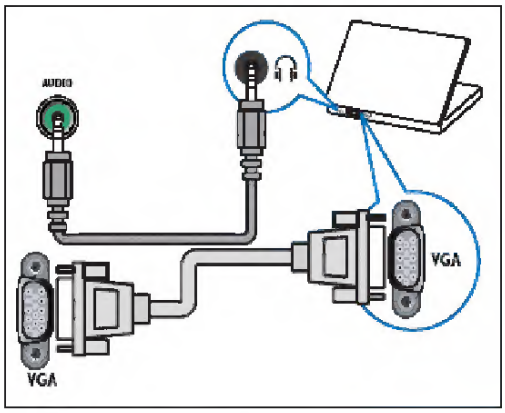


Fig- 1

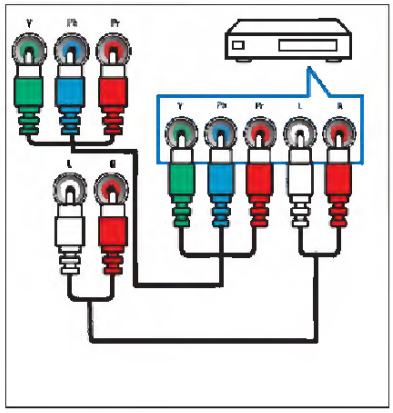


Fig- 2

Downloaded from www.Manualslib.com manuals search engine

3. **EXT 1 (SCART)** Analogue audio and video input from analogue or digital devices such as DVD players or game consoles. (see Fig-3)

4. **TV ANTENNA** Signal input from an antenna, cable or satellite (see Fig-4)

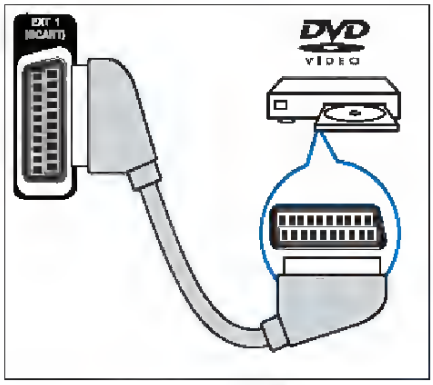


Fig- 3

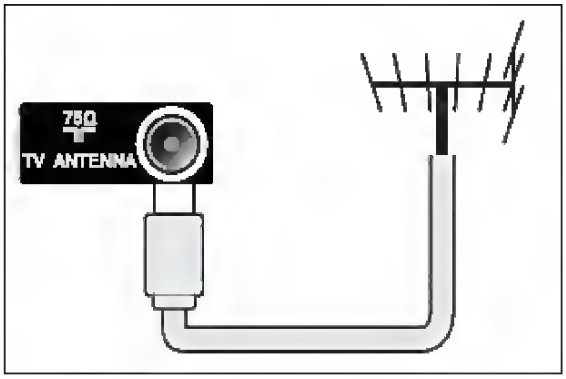


Fig- 4

5. **AV OUT (VIDEO OUT and AUDIO OUT L/R)** Audio and video output to analogue devices such as another TV or a recording device (see Fig-5)

6. **SPDIF OUT:** Digital audio output to home theatres and other digital audio systems(see Fig-6)

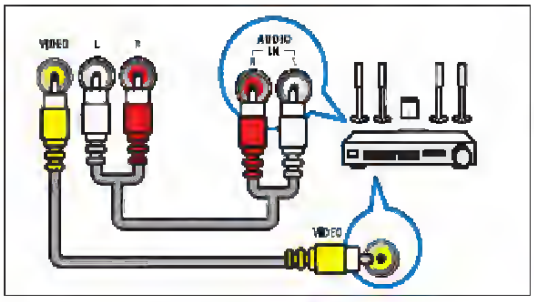


Fig- 5

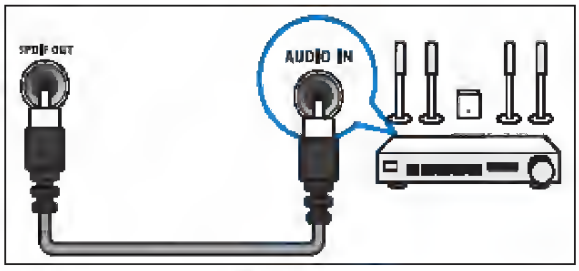


Fig- 6

7. **HDMI:** Digital audio and video input from high-definition digital devices such as Blu-ray players (see Fig-7)

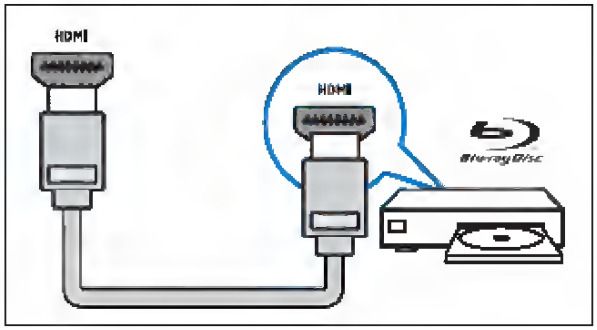


Fig- 7

Downloaded from www.Manualslib.com manuals search engine

Side connectors

1. **COMMON INTERFACE** Slot for a Conditional Access Module (CAM) (see Fig-8)

2. **AUDIO L/R** Audio input from analogue devices connected to VIDEO (see Fig-9)

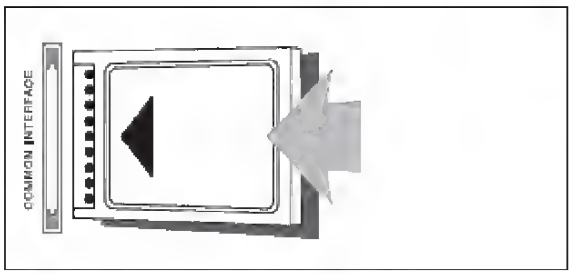


Fig- 8

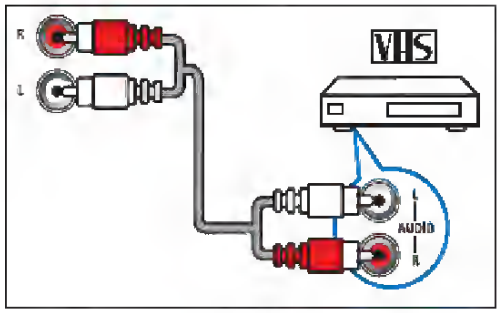


Fig- 9

3. **VIDEO** Composite video input from analogue devices such as VCRs (see Fig-10)

4. **SERVICE** USB port, for upgrade firmware purpose only (see Fig-11)

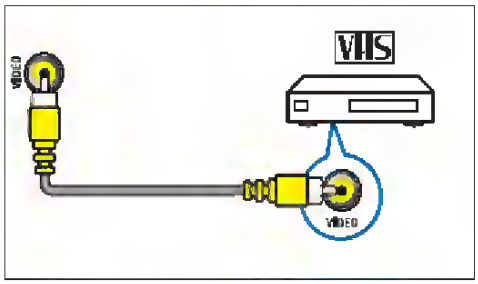


Fig- 10

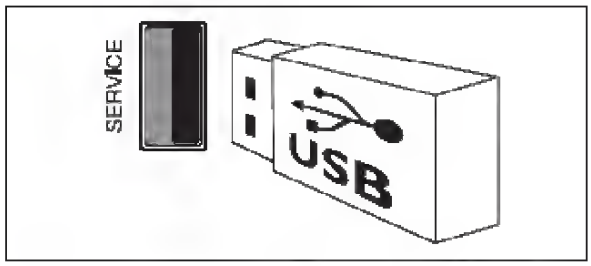


Fig- 11

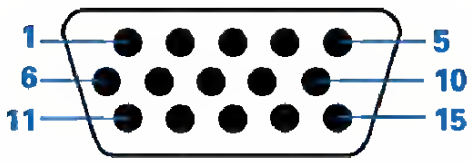
Downloaded from www.Manualslib.com manuals search engine

4. Input/ Output Specification

4.1 Input Signal Connector

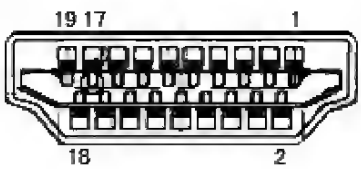
Analog Connectors

Pin No.	Description	Pin No.	Description
1	Red	9	+5V (Supply from PC)
2	Green	10	Sync GND
3	Blue	11	NC
4	NC	12	Bi-directional data(SDA)
5	GND	13	H-sync
6	Red GND	14	V-sync
7	Green GND	15	Data clock(SCL)
8	Blue GND		



HDMI Connectors

Pin No.	Description	Pin No.	Description
1	TMDS Data2+	11	TMDS Clock Shield
2	TMDS Data2 shield	12	TMDS Clock-
3	TDMS Data2-	13	CEC
4	TMDS Data1+	14	Reserved (N.C. on device)
5	TMDS Data1 shield	15	SCL
6	TMDS Data1-	16	SDA
7	TMDS Data0+	17	DDC/CEC Ground
8	TMDS Data0 shield	18	+5V Power
9	TMDS Data0-	19	Hot Plug Detect
10	TMDS Clock+		



Downloaded from www.Manualslib.com manuals search engine

4.2 Factory Preset Modes

Computer Formats

Resolution	Refresh Rate	Remark
640 x 480	60Hz	
640 x 480	75Hz	
800 x 600	60Hz	
800 x 600	75Hz	
1024 x 768	60Hz	
1024 x 768	75Hz	
1280 x 1024	60Hz	
1440 x 900	60Hz	
1600 x 900	60Hz	Only for 201T1
1680 x 1050	60H z	
1920 x 1080	60Hz_RB	Only for 221T1

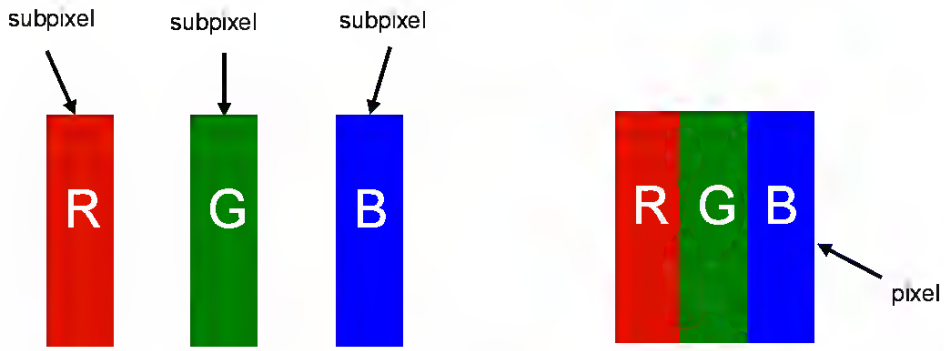
Video Formats

Resolution	Refresh Rate
480i	60Hz
480p	60Hz
576i	50Hz
576i	50Hz
720p	50Hz , 60Hz
1080i	50Hz , 60Hz
1080p	50Hz , 60Hz

Downloaded from www.Manualslib.com manuals search engine

4.3 Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing process and practice stringent quality control. However, pixel or sub pixel defects on the TFT LCD panels used in flat panel monitors are sometimes unavoidable. No manufacturer can guarantee that panels will be free from pixel defects, but Philips guarantees that any monitor with an unacceptable number of defects will be repaired or replaced under warranty. This notice explains the different types of pixel defects and defines acceptable defect levels for each type. In order to qualify for repair or replacement under warranty, the number of pixel defects on a TFT LCD panel must exceed these acceptable levels. For example, no more than 0.0004% of the sub pixels on a 19" XGA monitor may be defective. Furthermore, Philips sets even higher quality standard for certain types or combinations of pixel defects that are more noticeable than others. This policy is valid worldwide.



Pixels and Sub pixels

A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels together appear as a signal black pixel. Other combinations of lit and dark sub appear as single pixels of other colors.

Types of Pixel Defects

Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

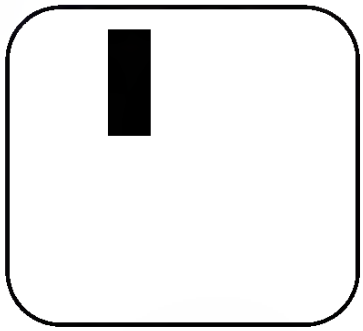
Bright Dot Defects Bright dot defects appear as pixels or sub pixels that are always lit or 'on'. That is, a Bright dot is a sub-pixel that stands out on the screen when the monitor displays a dark pattern. There are three types of bright dot defects.

Downloaded from www.Manualslib.com manuals search engine

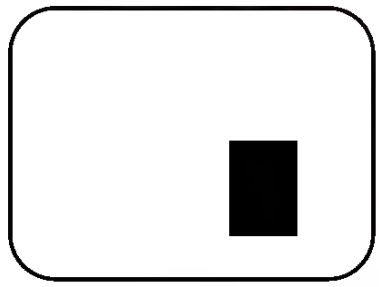
	Two adjacent lit sub pixels	
	- Red + Blue = Purple	Three adjacent lit sub pixels
One lit red, green or blue sub pixel	- Red + Green = Yellow	(one white pixel)
	- Green + Blue = Cyan (Light Blue)	

A red or blue bright dot must be more than 50 percent brighter than neighboring dots while a green bright dot is 30 percent brighter than neighboring dots

Black Dot Defects Black dot defects appear as pixels or sub pixels that are always dark or 'off' That is, a dark dot is a sub-pixel that stands out on the screen when the monitor displays a light pattern. There are two types of black dot defects:



One dark sub pixel



Two or three adjacent dark sub pixels

Proximity of Pixel Defects

Because pixel and sub pixels defects of the same type that are near to one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects.

Pixel Defect Tolerances

The HP display does not have more than:

- 3 bright dots
- 5 dark dots
- 5 total bright and dark dots

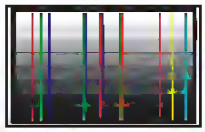
No more than two adjacent (less than 2 5 mm edge-to-edge) defective pixels

Downloaded from www.Manualslib.com manuals search engine

4.4 Failure Mode Of Panel

Quick reference for failure mode of LCD panel

this page presents problems that could be made by LCD panel.
It is not necessary to repair circuit board. Simply follow the mechanical instruction on this manual to eliminate failure by replace LCD panel.

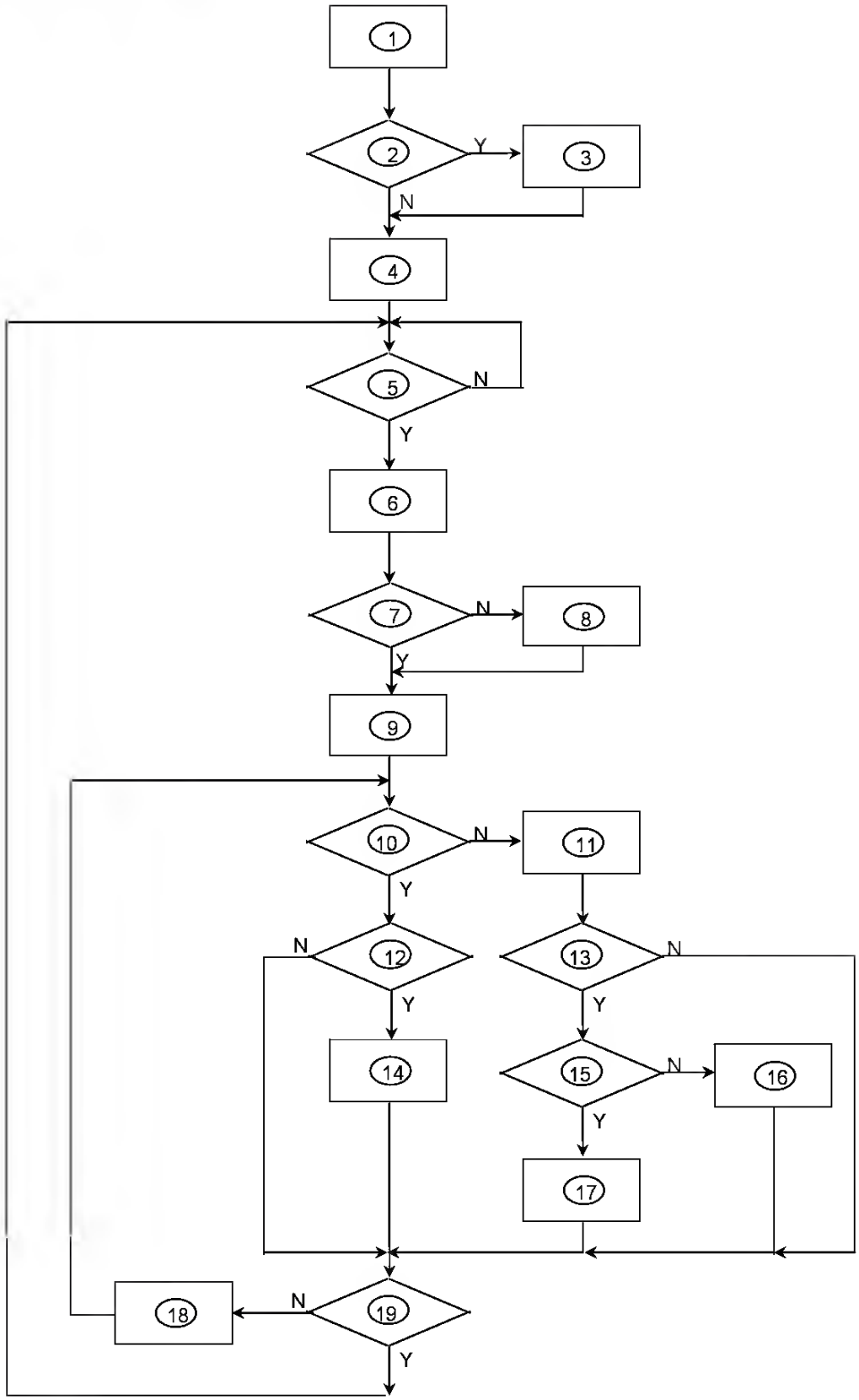
Failure description	Phenomenon
Vertical block defect	
Vertical dim lines	
Vertical lines defect (Always bright or dark)	
Horizontal block defect	
Horizontal dim lines	
Horizontal lines defect (Always bright or dark)	
Has bright or dark pixel	

Polarizer has bubbles	
Polarizer has bubbles	
Foreign material inside polarizer. It shows liner or dot shape	
Concentnc circle formed	
Bottom back light of LCD is brighter than normal	
Back light un-unitormity	
Backlight has foreign material Black or white color, liner or circular type	

Downloaded from www.Manualslib.com manuals search engine

5. Block Diagram

5.1 Software Flow Chat



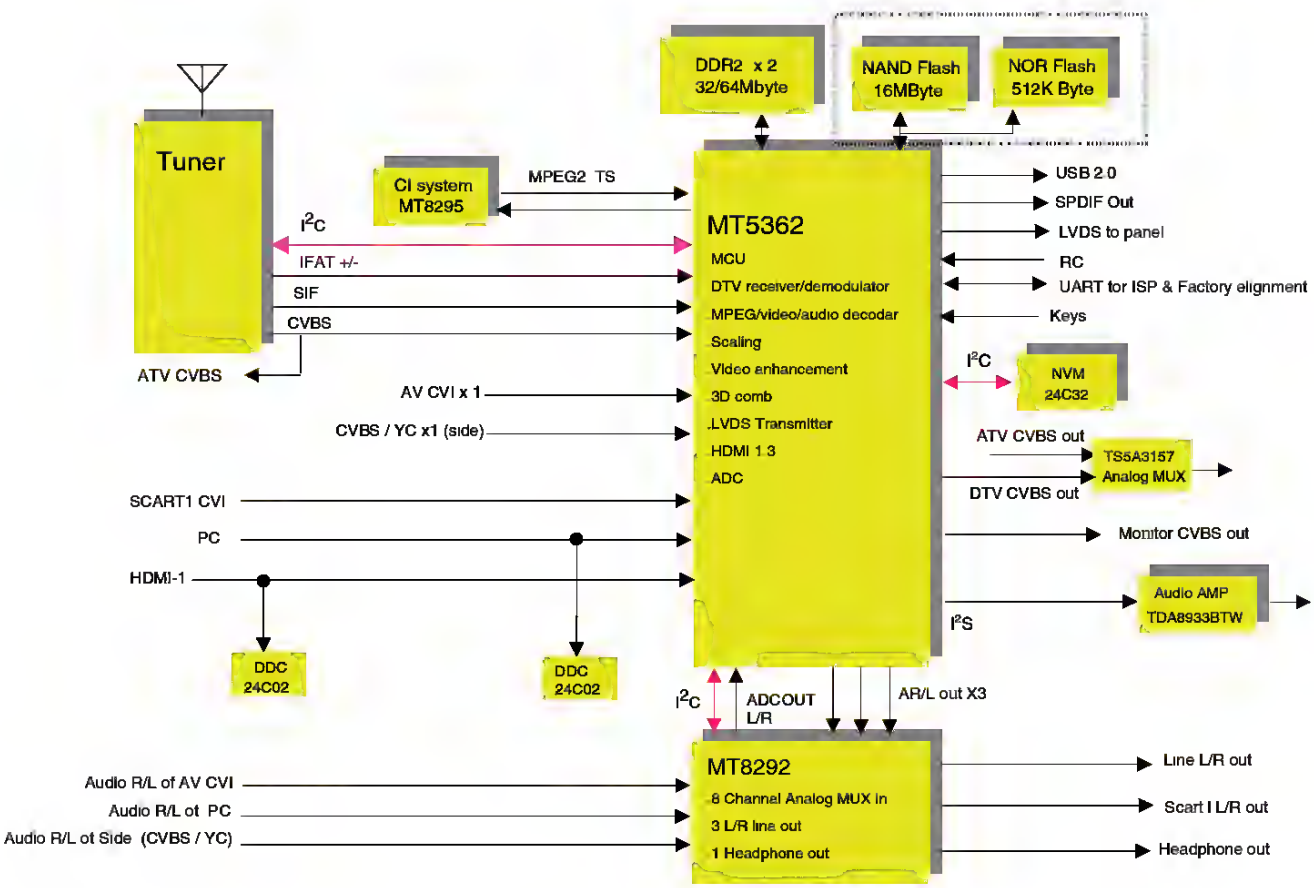
Downloaded from www.Manualslib.com manuals search engine

1) MCU initializes
2) Is the EPROM blank?
3) Program the EPROM by default values
4) Get the PWM value of brightness from EPROM
5) Is the power key pressed?
6) Clear all global flags
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode
9) Save the power key status into EPROM Turn on the LED and set it to green color Scaler initializes
10) In standby mode?
11) Update the lifetime of back light
12) Check the analog port, are there any signals coming?
13) Does the Scaler send out an interrupt request?
14) Wake up the Scaler
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message And go into standby mode after the message disappears
17) Program the Scaler to be able to show the coming mode
18) Process the OSD display
19) Read the keyboard Is the power key pressed?

Downloaded from www.Manualslib.com manuals search engine

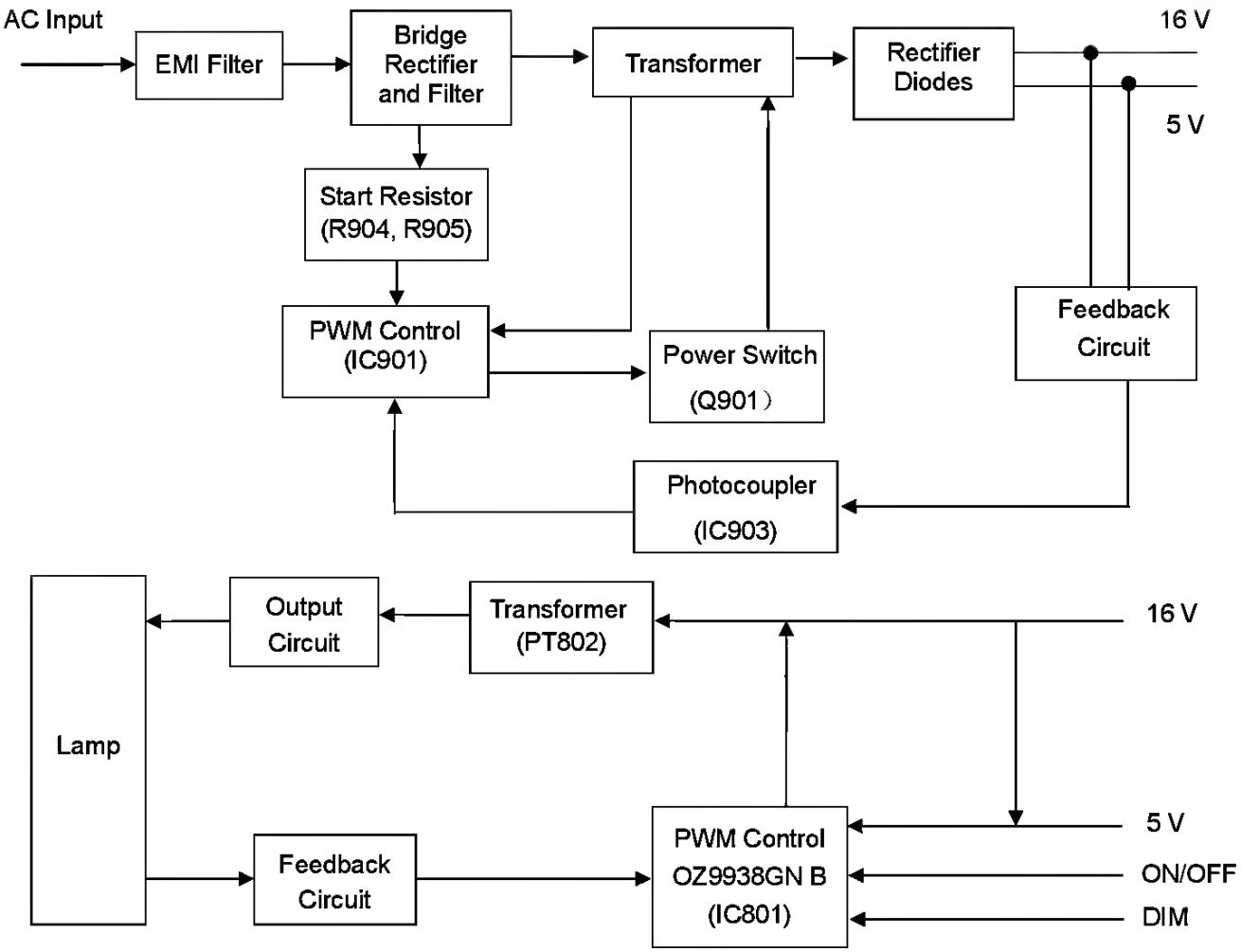
5.2 Electrical Block Diagram

5.2.1 Block diagram



Downloaded from www.Manualslib.com manuals search engine

5.2.2 Power / Inverter Board

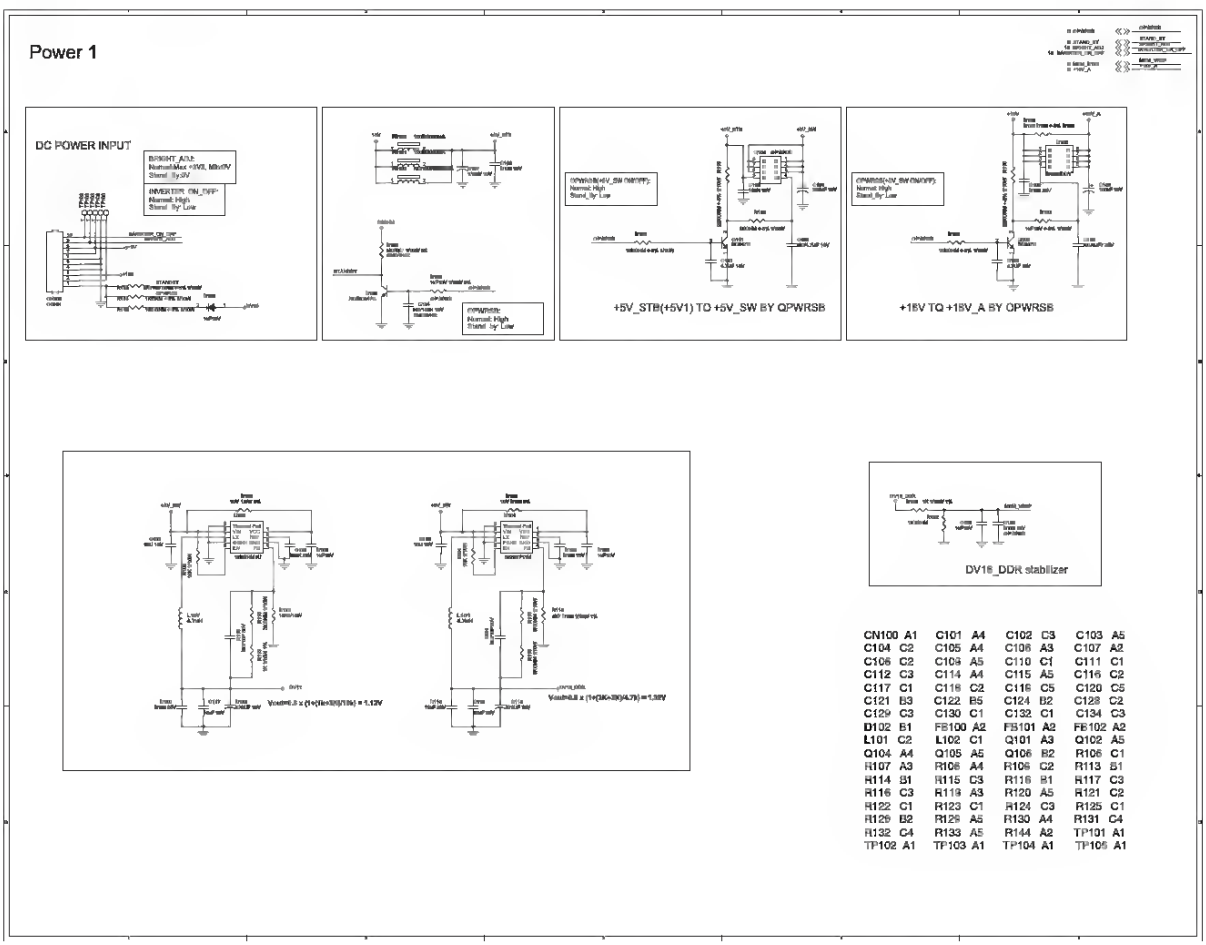


Downloaded from www.Manualslib.com manuals search engine

6. Schematic

6.1 Scaler Board

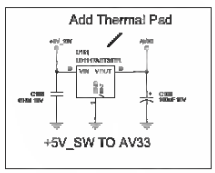
715G3292-1B

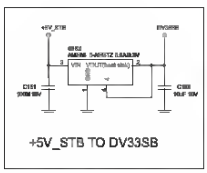


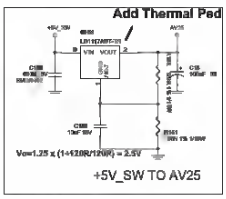
CN100 A1	C101 A4	C102 C3	C103 A5
C104 C2	C105 A4	C106 A3	C107 A2
C108 C2	C109 A5	C110 C1	C111 C1
C112 C3	C114 A4	C115 A5	C116 C2
C117 C1	C118 C2	C119 C5	C120 C5
C121 B3	C122 B5	C124 B2	C128 C2
C129 C3	C130 C1	C132 C1	C134 C3
D102 B1	FB100 A2	FB101 A2	FB102 A2
L101 C2	L102 C1	Q101 A3	Q102 A5
Q104 A4	Q105 A5	Q106 B2	R106 C1
R107 A3	R108 A4	R109 C2	R113 B1
R114 B1	R115 C3	R116 B1	R117 C3
R118 C3	R119 A3	R120 A5	R121 C2
R122 C1	R123 C1	R124 C3	R125 C1
R128 B2	R129 A5	R130 A4	R131 C4
R132 C4	R133 A5	R144 A2	TP101 A1
TP102 A1	TP103 A1	TP104 A1	TP105 A1

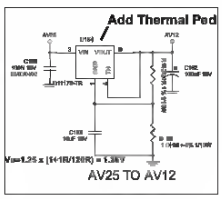
Downloaded from www.Manualslib.com manuals search engine

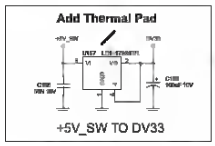
Power 2

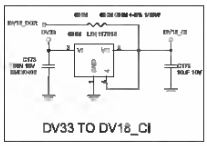


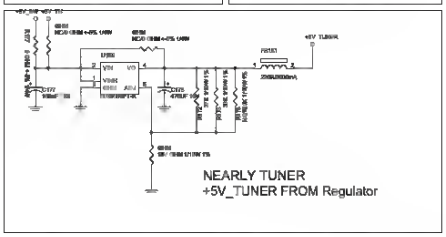


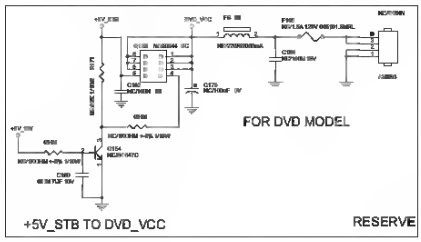


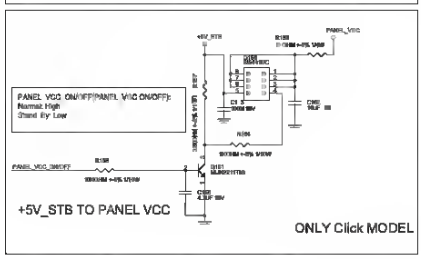


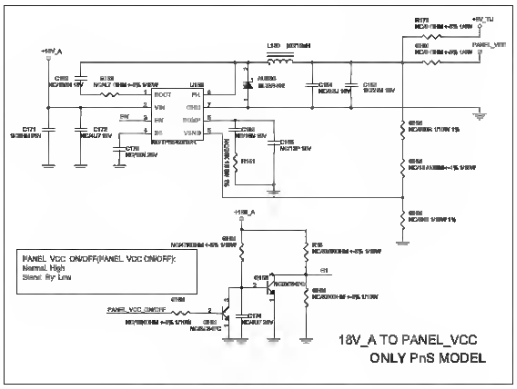






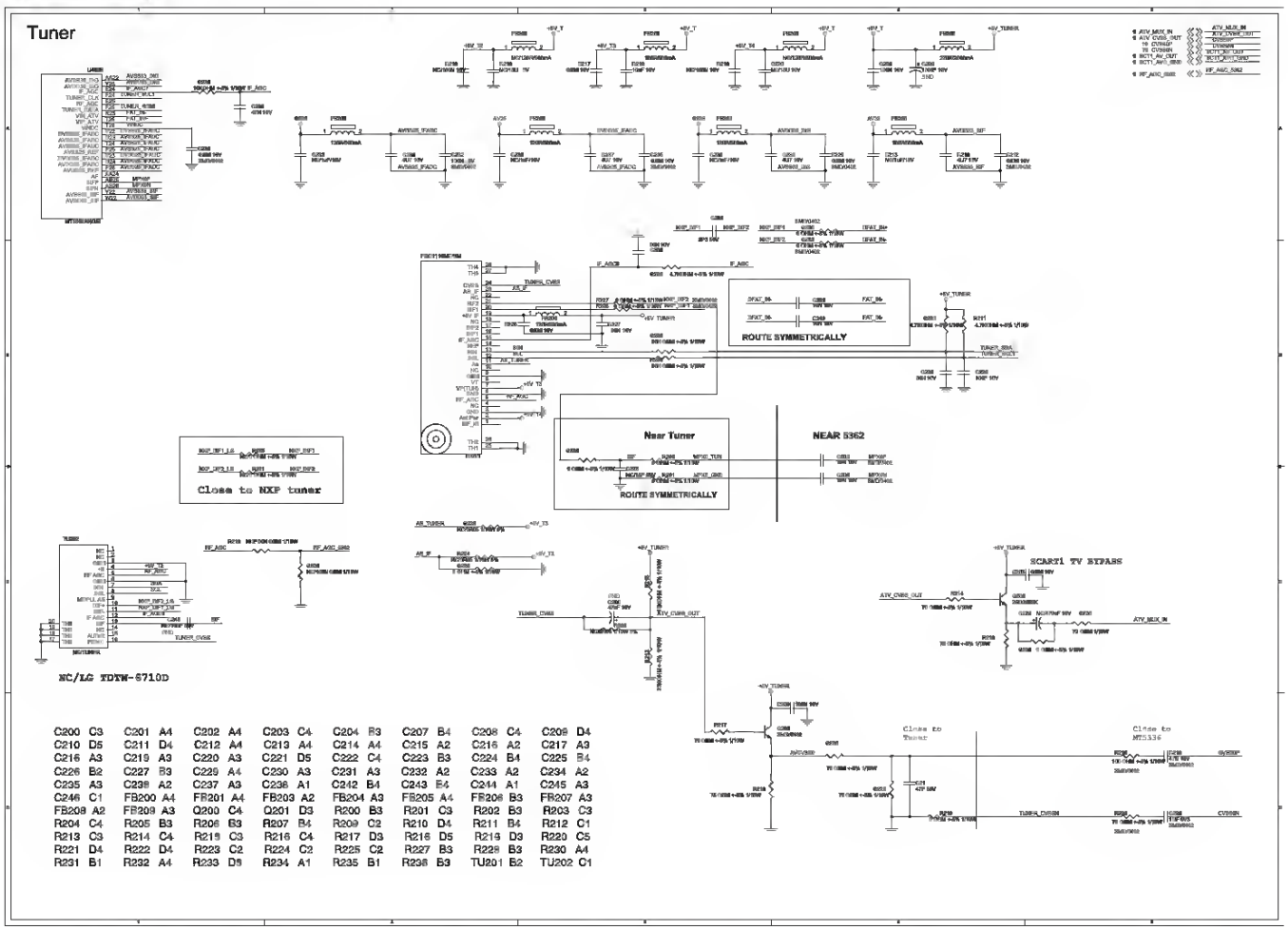






CN150	B2	C113	C1
C151	A2	C152	C3
C153	A3	C154	C3
C155	A2	C156	D1
C157	C4	C158	B1
C159	A1	C160	B1
C161	A3	C162	A4
C163	C3	C164	A3
C165	C3	C166	A1
C167	C2	C168	A3
C169	A2	C170	C3
C171	C2	C172	C3
C173	B2	C174	D3
C175	B2	C177	B2
C178	B3	C179	B1
C180	C1	C182	B1
C183	B2	FB150	B1
FB151	B3	F150	B2
L150	C3	Q150	C2
Q151	D1	Q152	D3
Q153	B1	Q154	C1
Q155	D3	R151	A3
R152	A3	R153	C3
R154	C3	R155	C4
R156	C4	R157	C1
R158	D1	R159	C4
R160	C4	R161	C3
R162	A4	R163	A4
R164	C2	R165	D3
R166	D3	R167	C3
R168	C2	R169	B1
R170	C1	R171	B1
R172	B3	R173	B3
R174	B3	R175	A2
R176	B3	R177	B2
R178	B2	R179	B4
R180	B3	U151	A1
U152	A2	U153	A3
U154	A3	U155	C3
U157	B1	U158	B2
U159	B3	ZD150	C3

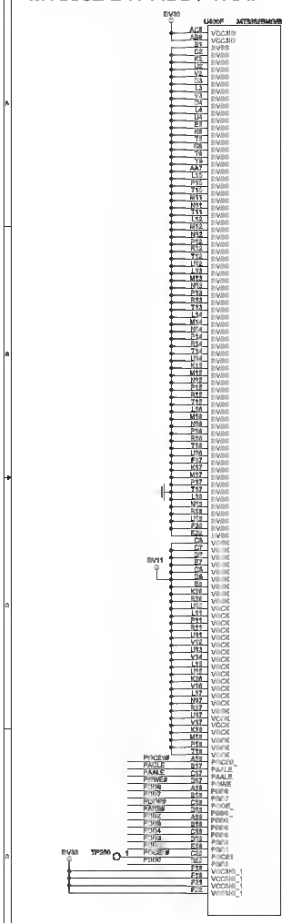
Downloaded from www.Manualslib.com manuals search engine

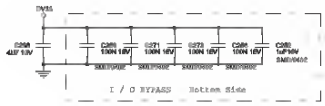


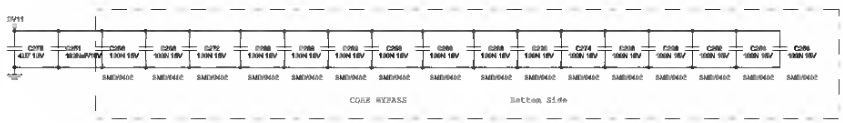
C200	C3	C201	A4	C202	A4	C203	C4	C204	B3	C207	B4	C208	C4	C209	D4
C210	D5	C211	D4	C212	A4	C213	A4	C214	A4	C215	A2	C216	A2	C217	A3
C216	A3	C219	A3	C220	A3	C221	D5	C222	C4	C223	B3	C224	B4	C225	B4
C226	B2	C227	B3	C229	A4	C230	A3	C231	A3	C232	A2	C233	A2	C234	A2
C235	A3	C238	A2	C237	A3	C236	A1	C242	B4	C243	B4	C244	A1	C245	A3
C246	C1	FB200	A4	FB201	A4	FB203	A2	FB204	A3	FB205	A4	FB206	B3	FB207	A3
FB208	A2	FB209	A3	Q200	C4	Q201	D3	R200	B3	R201	C3	R202	B3	R203	C3
R204	C4	R205	B3	R206	B3	R207	B4	R209	C2	R210	D4	R211	B4	R212	C1
R213	C3	R214	C4	R215	C3	R216	C4	R217	D3	R218	D5	R219	D3	R220	C5
R221	D4	R222	D4	R223	C2	R224	C2	R225	C2	R227	B3	R228	B3	R230	A4
R231	B1	R232	A4	R233	D5	R234	A1	R235	B1	R236	B3	TU201	B2	TU202	C1

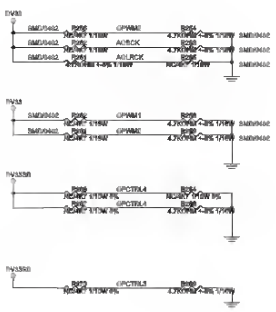
Downloaded from www.Manualslib.com manuals search engine

MT5362 BYPASS / TRAP









Trap Mode	OPWM2	AOSCK	AOLRCK
Normal mode	0	0	0
ICE mode	0	0	1
CPU model mode	0	1	0

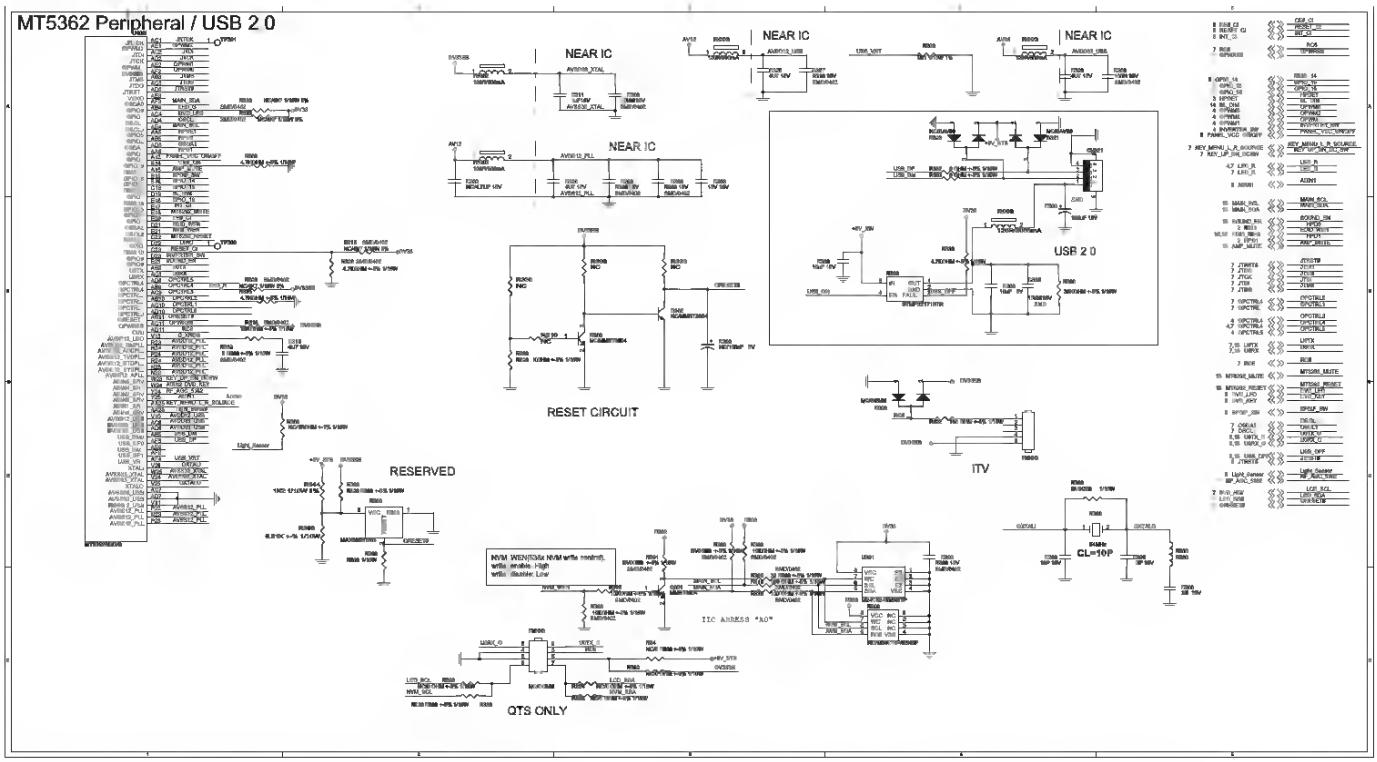
Trap Mode	OPWM0	OPWM1
NOR BOOT	0	0
NAND BOOT	0	1
LARGE NAND BOOT	1	0

Trap Mode	OPCTRL5	OPCTRL4
Core Reset bus	0	0
Core Reset 3.3V	0	1
SCAN mode	1	0
Core Reset 2.5V	1	1

Stripping Mode	OPCTRL3 (0)	OPCTRL2 (0)
XTAL 54MHz	0	0
XTAL 27MHz	1	0

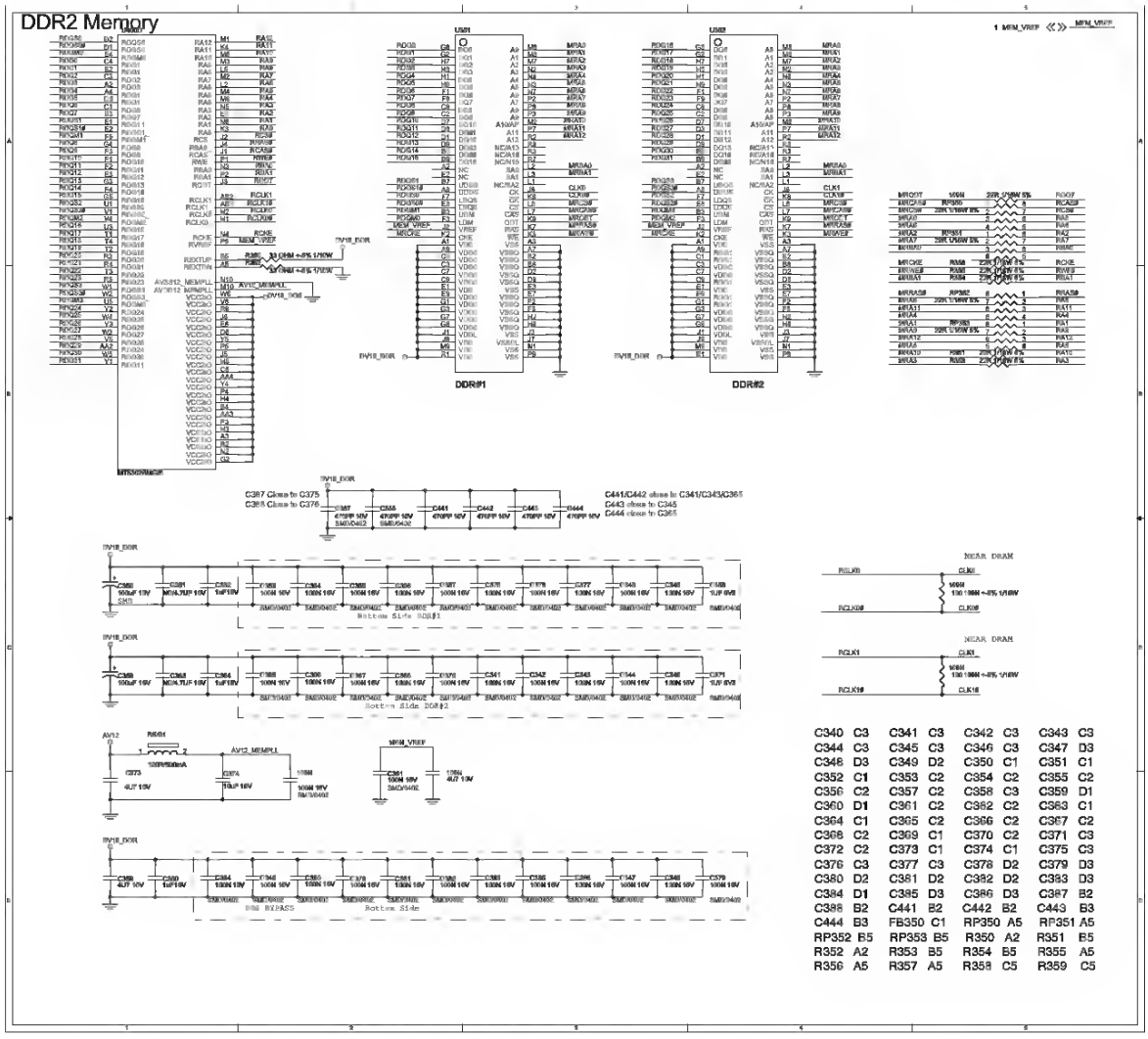
C250	B5	C254	B5
C262	B3	C266	B3
C270	B4	C274	B4
R251	C2	R255	C3
R261	C2	R267	C2
C251	B2	C255	A3
C263	B3	C267	B4
C271	A3	C275	B2
R252	C2	R256	C2
R262	C2	R268	C2
C252	A3	C256	B2
C264	B3	C268	B2
C272	B2	C276	B4
R253	C3	R258	C3
R264	C3	R269	D3
C253	B5	C258	A3
C265	A3	C269	B3
C273	A3	C277	B4
R254	C3	R256	C3
R265	C3	R270	D2

Downloaded from www.Manualslib.com manuals search engine



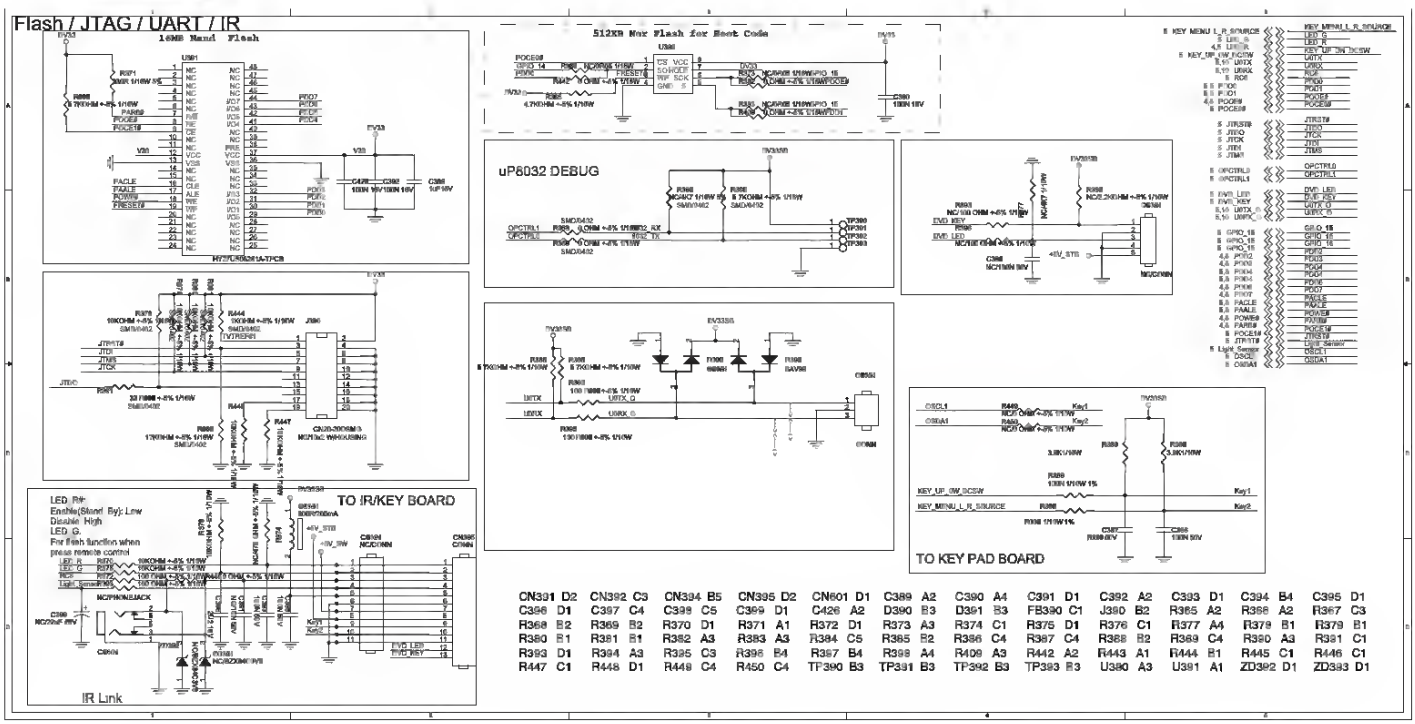
CN321	A4	CN332	C4	CN333	D2	C301	B3	C302	C4	C304	C4	C305	C5	C307	A3	C308	D5	C309	A3
C310	A3	C311	A2	C319	B1	C320	A2	C326	A3	C327	A3	C328	A4	C330	A4	C331	B4	C332	A2
C333	A3	C334	B4	C335	B4	C336	B4	D321	A4	D322	A4	D323	C4	FB302	A2	FB303	A2	FB322	A4
FB323	A3	FB324	B4	L300	C5	Q300	B3	Q301	D3	Q302	B3	R300	C1	R301	C3	R302	C3	R303	C3
R304	C3	R305	D3	R307	D3	R308	C4	R309	B3	R310	B2	R311	B2	R315	B1	R317	B1	R318	B2
R319	D3	R320	D3	R321	D2	R322	C4	R323	D2	R324	D3	R325	B2	R326	D3	R328	A1	R329	B1
R330	B2	R331	A4	R338	A4	R333	A4	R334	A1	R335	B1	R337	B3	R338	A1	R339	B4	R340	B4
R341	D3	R342	D3	R343	C2	R344	C2	R345	C2	R348	C2	TP300	B1	TP301	A1	U300	D4	U301	C4

Downloaded from www.Manualslib.com manuals search engine



C340	C3	C341	C3	C342	C3	C343	C3
C344	C3	C345	C3	C346	C3	C347	D3
C348	D3	C349	D2	C350	C1	C351	C1
C352	C1	C353	C2	C354	C2	C355	C2
C356	C2	C357	C2	C358	C3	C359	D1
C360	D1	C361	C2	C362	C2	C363	C1
C364	C1	C365	C2	C366	C2	C367	C2
C368	C2	C369	C1	C370	C2	C371	C3
C372	C2	C373	C1	C374	C1	C375	C3
C376	C3	C377	C3	C378	D2	C379	D3
C380	D2	C381	D2	C382	D2	C383	D3
C384	D1	C385	D3	C386	D3	C387	B2
C388	B2	C441	B2	C442	B2	C443	B3
C444	B3	FB350	C1	RP350	A5	RP351	A5
RP352	B5	RP353	B5	R350	A2	R351	B5
R352	A2	R353	B5	R354	B5	R355	A5
R356	A5	R357	A5	R358	C5	R359	C5

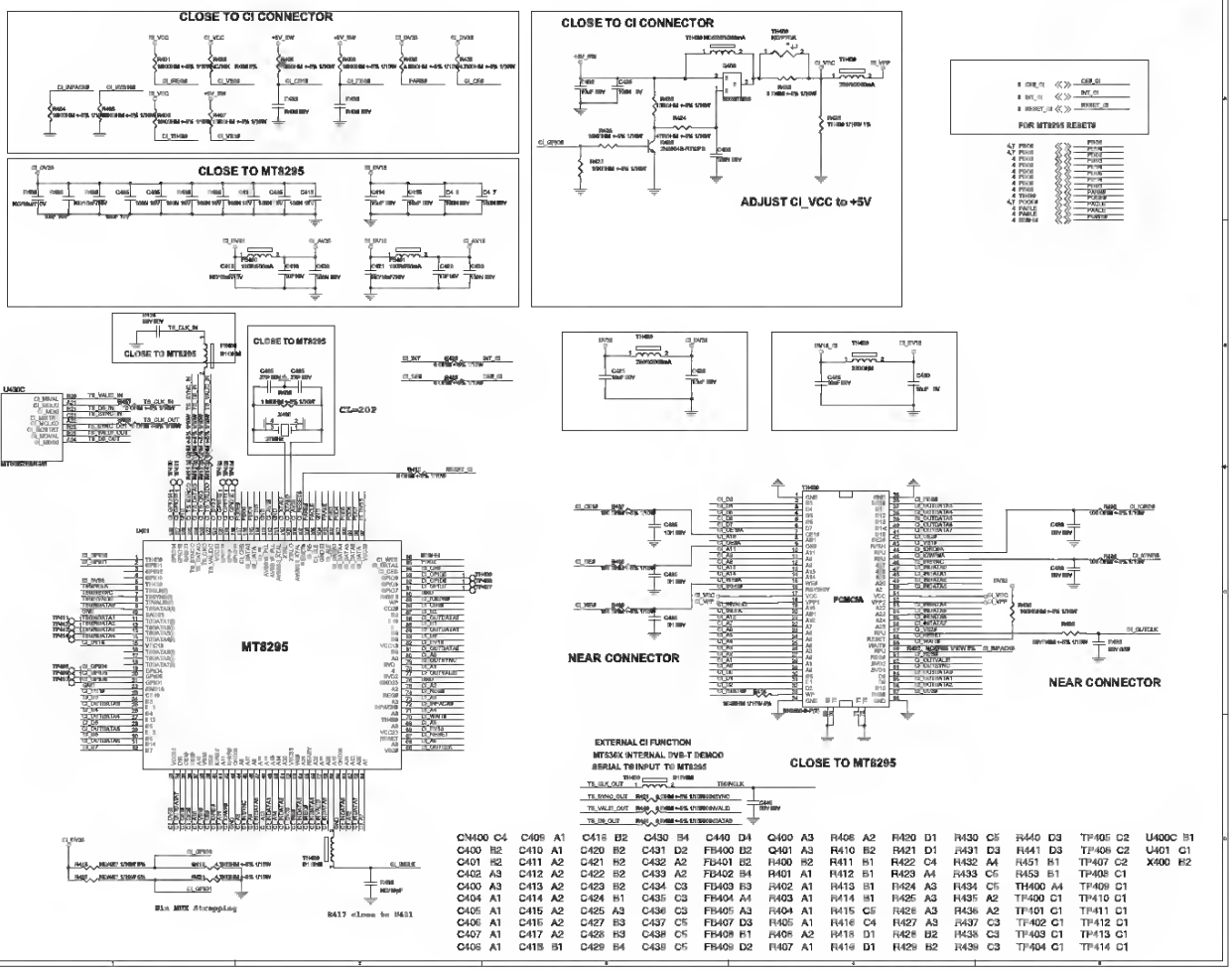
Downloaded from www.Manualslib.com manuals search engine



CN391	D2	CN392	C3	CN394	B5	CN395	D2	CN601	D1	C389	A2	C390	A4	C391	D1	C392	A2	C393	D1
C394	B4	C395	D1	C396	D1	C397	C4	C398	C5	C399	D1	C426	A2	D390	B3	D391	B3	FB390	C1
J380	B2	R365	A2	R366	A2	R367	C3	R368	B2	R369	B2	R370	D1	R371	A1	R372	D1	R373	A3
R374	C1	R375	D1	R376	C1	R377	A4	R379	B1	R379	B1	R380	B1	R381	B1	R382	A3	R383	A3
R384	C5	R385	B2	R386	C4	R387	C4	R388	B2	R389	C4	R390	A3	R391	C1	R393	D1	R394	A3
R395	C3	R396	B4	R397	B4	R399	A4	R409	A3	R442	A2	R443	A1	R444	B1	R445	C1	R446	C1
R447	C1	R448	D1	R449	C4	R450	C4	TP390	B3	TP391	B3	TP392	B3	TP393	B3	U380	A3	U391	A1
ZD392	D1	ZD393	D1																

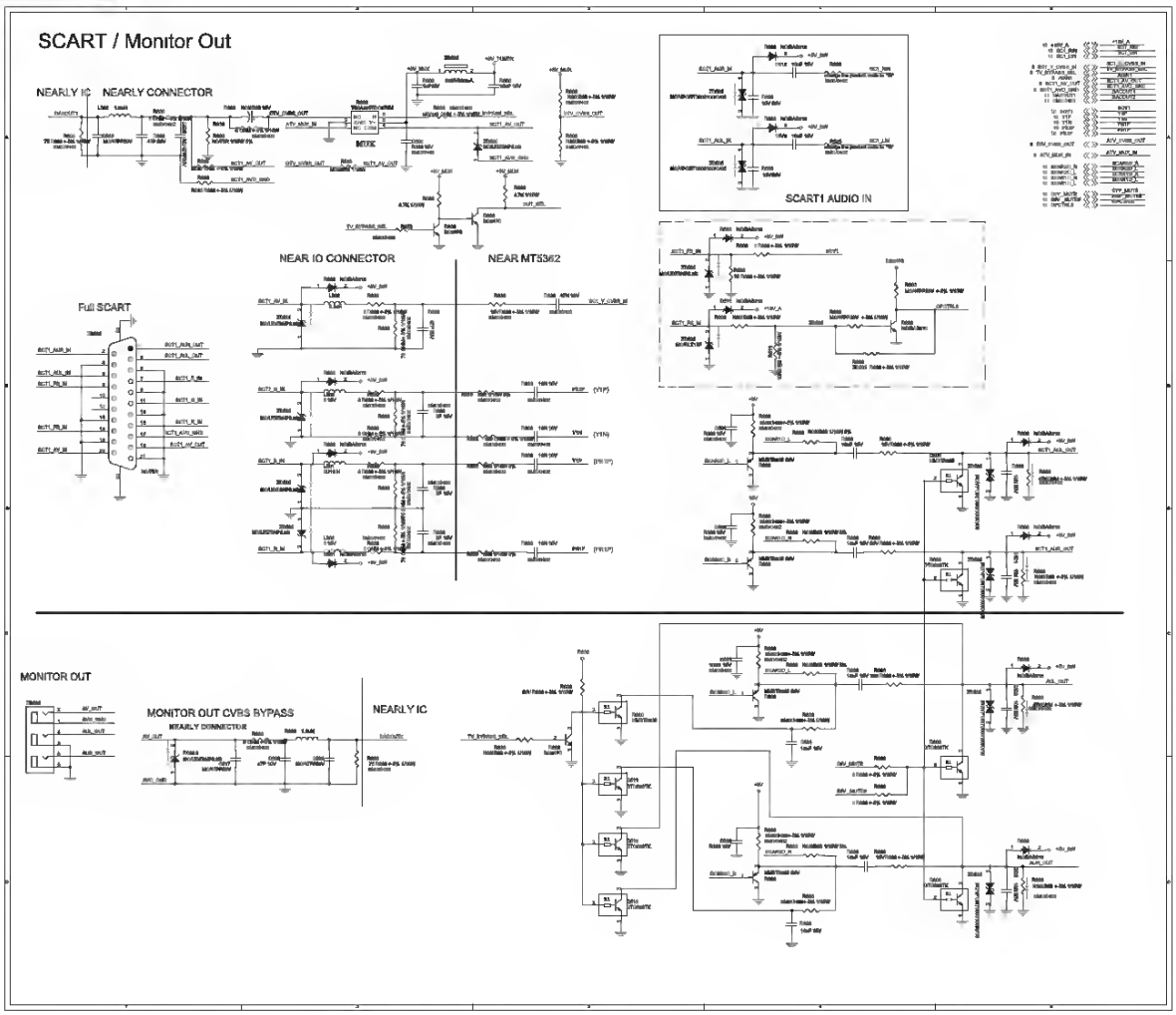
Downloaded from www.Manualslib.com manuals search engine

MT8295 / CI Card



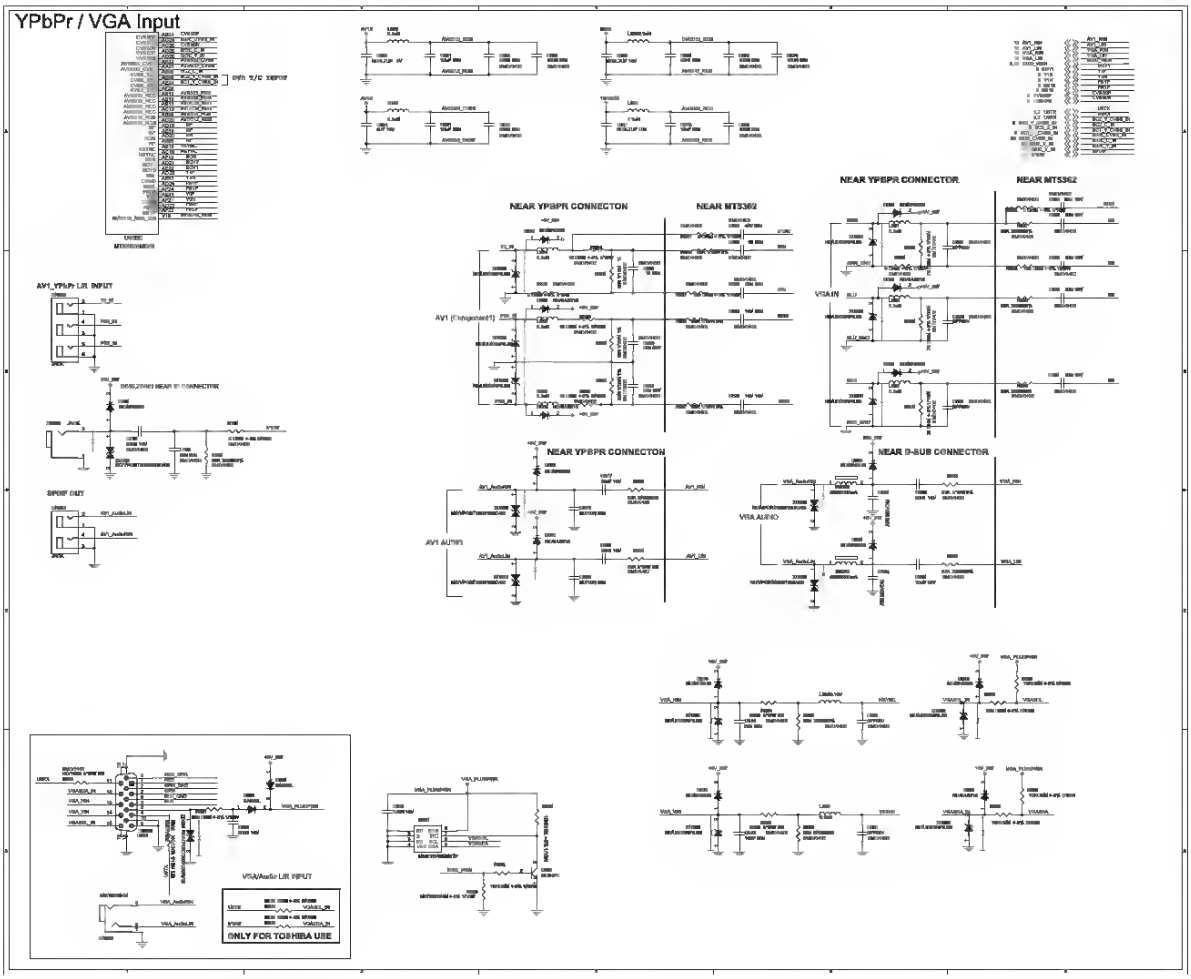
CN400	C4	C409	A1	C416	B2	C430	B4	C440	D4	Q400	A3	R406	A2	R420	D1	R430	C5	R440	D3	TP405	C2	U400C	B1
C400	B2	C410	A1	C420	B2	C431	D2	FB400	B2	Q401	A3	R410	B2	R421	D1	R431	D3	R441	D3	TP406	C2	U401	C1
C401	B2	C411	A2	C421	B2	C432	A2	FB401	B2	R400	B2	R411	B1	R422	C4	R432	A4	R451	B1	TP407	C2	X400	B2
C402	A3	C412	A2	C422	B2	C433	A2	FB402	B4	R401	A1	R412	B1	R423	A4	R433	C5	R453	B1	TP408	C1		
C403	A3	C413	A2	C423	B2	C434	C3	FB403	B3	R402	A1	R413	B1	R424	A3	R434	C5	TH400	A4	TP409	C1		
C404	A1	C414	A2	C424	B1	C435	C3	FB404	A4	R403	A1	R414	B1	R425	A3	R435	A2	TP400	C1	TP410	C1		
C405	A1	C415	A2	C425	A3	C436	C3	FB405	A3	R404	A1	R415	C5	R426	A3	R436	A2	TP401	C1	TP411	C1		
C406	A1	C416	A2	C427	B3	C437	C5	FB407	D3	R405	A1	R416	C4	R427	A3	R437	C3	TP402	C1	TP412	C1		
C407	A1	C417	A2	C428	B3	C438	C5	FB408	B1	R408	A2	R418	D1	R428	B2	R438	C3	TP403	C1	TP413	C1		
C408	A1	C418	B1	C429	B4	C439	C5	FB409	D2	R407	A1	R419	D1	R429	B2	R439	C3	TP404	C1	TP414	C1		

Downloaded from www.Manualslib.com manuals search engine



CNF00	B1	R501	C2
CNF01	C1	R502	A1
C500	A3	R503	A1
C501	A2	R504	B4
C502	A2	R505	B4
C503	A2	R506	A3
C504	B4	R507	B4
C505	B3	R508	A4
C506	B2	R509	A3
C507	B3	R510	C2
C508	B2	R511	B4
C509	C2	R512	A2
C510	C2	R513	B3
C511	C3	R514	B4
C512	A4	R515	B3
C513	A4	R516	B2
C514	A4	R517	B2
C515	A4	R518	B2
C516	B5	R519	C2
C517	C1	R520	C3
C518	B2	R521	B2
C519	A1	R522	B3
C520	B3	R523	A4
C521	C5	R524	C4
C522	C5	R525	A4
C523	D5	R526	C4
C524	A1	R527	D4
C525	A1	R528	B4
C526	C2	R529	B2
C527	B3	R530	A1
C528	B4	R531	B2
C529	C4	R532	B3
C530	C4	R533	A2
C531	C4	R534	A1
C532	D4	R535	A1
C533	C4	R536	C4
C534	C4	R537	D5
C535	D4	R538	B2
C536	D4	R539	C2
D500	B2	R540	B4
D501	C2	R541	B5
D502	B2	R542	C4
D504	B2	R543	C5
D505	A4	R544	C4
D507	A4	R545	C4
D508	B5	R546	C4
D509	C5	R547	C5
D510	A4	R548	D4
D511	B4	R549	D4
D512	C5	R550	D4
D514	D5	R563	B4
FB500	A2	R574	A1
L500	B2	R575	C3
L501	B2	R576	C3
L502	C2	R577	C4
L504	B2	R585	D4
L505	C2	R592	A2
L507	A1	R593	A3
Q500	B4	R673	A2
Q501	C4	U500	A2
Q502	C4	ZD500	B2
Q503	B4	ZD501	B2
Q504	C3	ZD502	B2
Q505	D4	ZD503	C2
Q506	B4	ZD504	A4
Q507	C4	ZD505	A4
Q508	C4	ZD506	B3
Q509	D4	ZD507	B3
Q510	C3	ZD508	B5
Q511	D3	ZD509	C5
Q512	D3	ZD510	A2
Q513	D3	ZD513	C1
Q514	A2	ZD514	C5
Q515	A2	ZD515	D5
R500	B4		

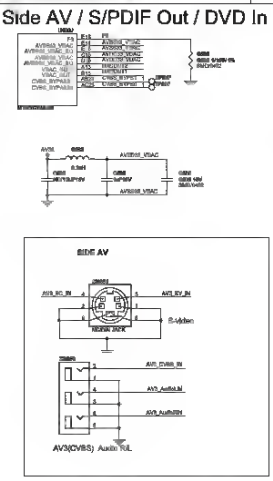
Downloaded from www.Manualslib.com manuals search engine

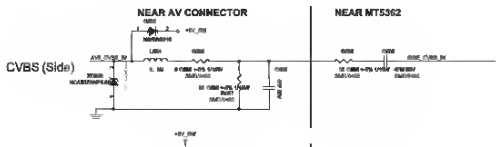


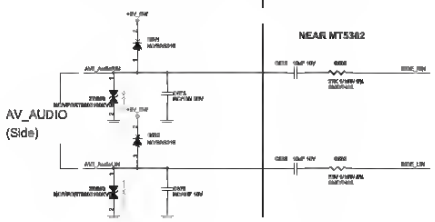
CN552	F1	L552	A3
CN554	D1	L553	A2
CN555	D1	L554	A3
CN556	B1	L556	B3
CN557	C1	L558	B3
C541	C4	L561	A4
C542	D4	L562	B4
C550	A4	L563	B4
C551	A2	L564	C4
C552	A2	L565	D4
C553	A3	Q550	D3
C554	A3	R541	A3
C555	A3	R552	D3
C557	A3	R553	A3
C558	A4	R554	D3
C559	A4	R559	C5
C561	A4	R556	B3
C562	D1	R557	B3
C563	C4	R558	C5
C564	B3	R559	B3
C565	B4	R560	D1
C566	A3	R561	B3
C567	D4	R562	D1
C568	B4	R564	A3
C569	B3	R569	B3
C570	D2	R565	B3
C571	A3	R567	B3
C573	A3	R568	B3
C574	B3	R569	B3
C576	B4	R570	B3
C577	B3	R571	D2
C578	A4	R572	C3
C579	C3	R573	D2
C581	C3	R575	B4
C583	C3	R576	B4
C584	A2	R580	B5
C585	A2	R581	B4
C587	A4	R582	A5
C588	B4	R583	B5
C589	B4	R584	A4
C590	A5	R585	C4
C591	C4	R587	A5
C592	B5	R589	B5
C593	B5	R589	D5
C594	C4	R590	D5
C595	C4	R591	D1
C596	A5	R593	C4
C597	B5	R594	C4
C598	B4	R595	D4
C755	B1	R596	D4
C756	B1	R597	B4
D553	A3	R598	D2
D554	B3	R790	B1
D555	B3	R791	B1
D556	B3	U400E	A1
D557	C3	U550	D2
D590	A4	ZD550	B3
D591	B4	ZD551	B3
D592	B4	ZD552	B3
D593	B4	ZD553	A4
D594	D2	ZD554	B4
D595	D1	ZD555	B4
D596	C4	ZD556	C3
D598	C5	ZD557	C3
D599	D5	ZD558	C4
D570	C3	ZD559	C4
D571	D3	ZD560	C3
D780	B1	ZD561	D3
FB555	B4	ZD562	C5
FB557	C4	ZD563	D5
L550	A2	ZD564	D1
L551	A3	ZD780	B1

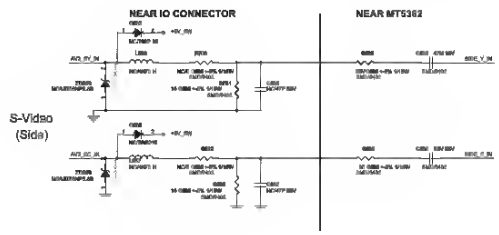
Downloaded from www.Manualslib.com manuals search engine

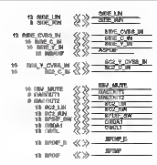
Side AV / S/PDIF Out / DVD In





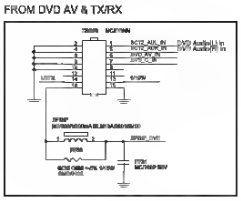


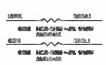


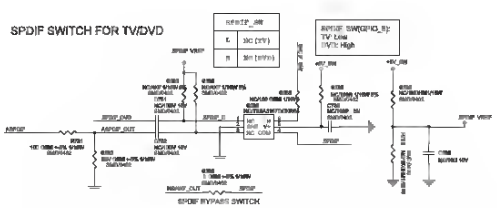


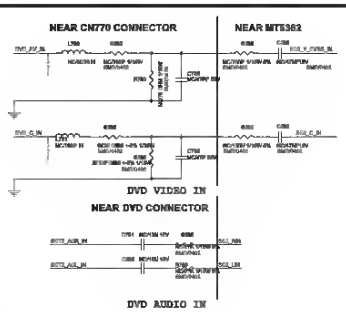
FOR DVD USE

FROM DVD AV & TX/RX



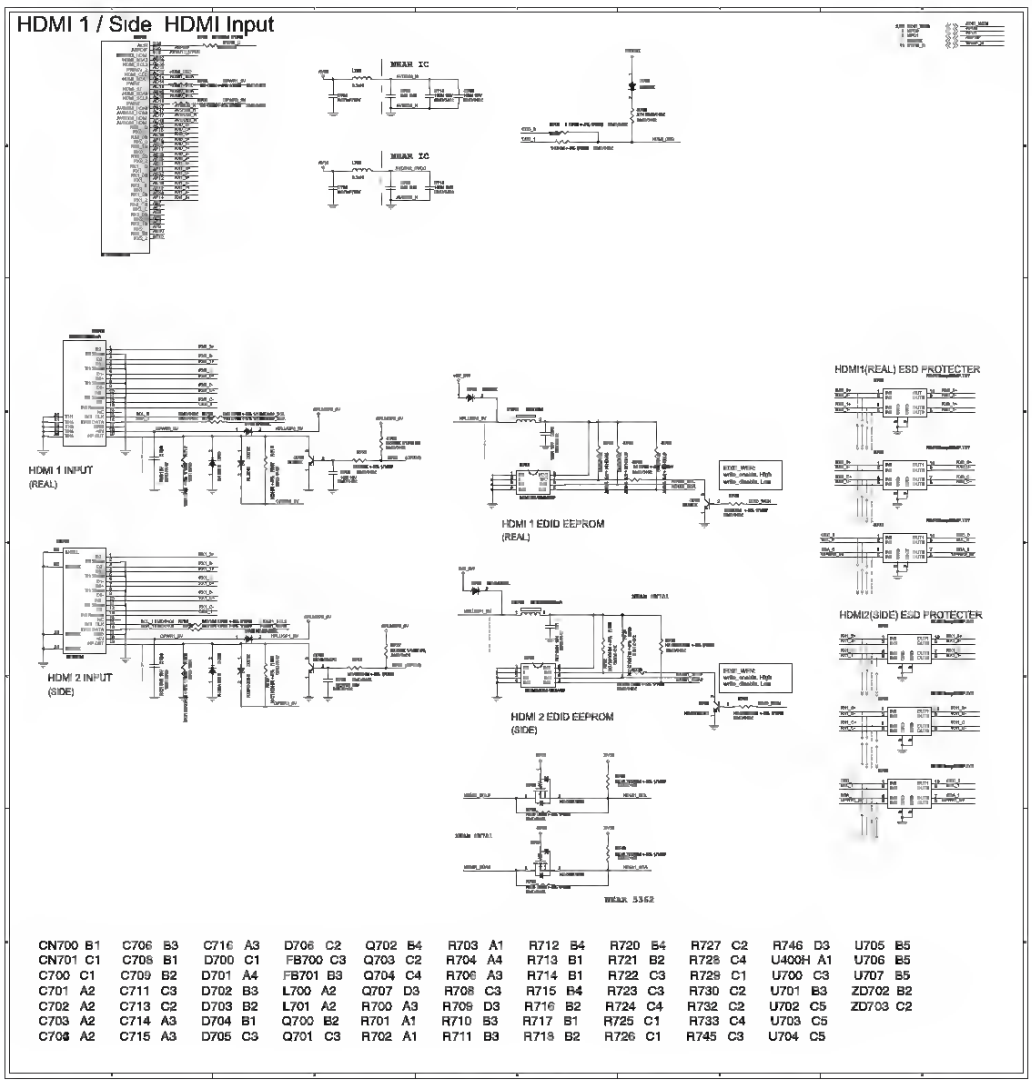






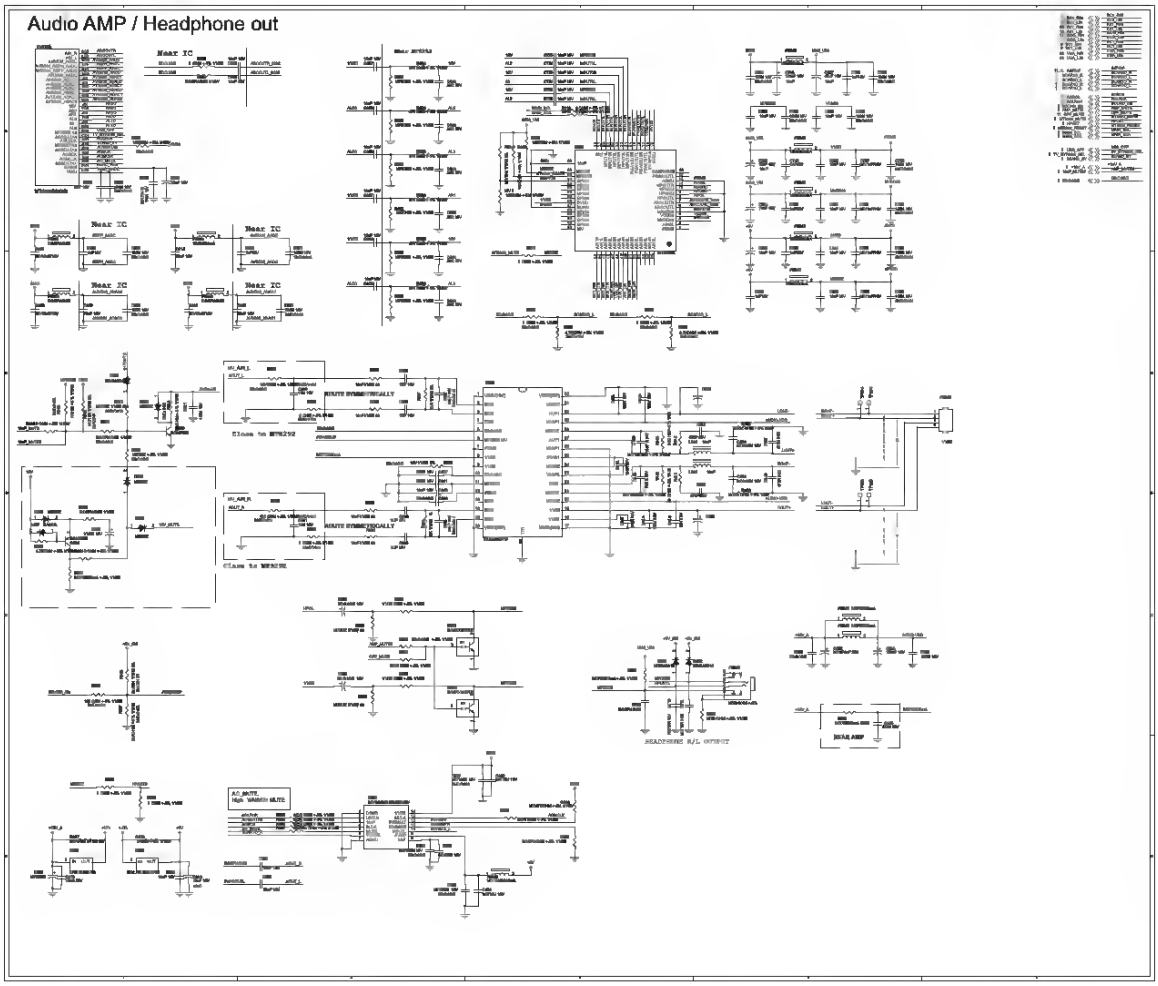
CN650	B1	C676	B5	C784	D3	D653	A4	R657	A2	R699	A1	R787	D3	R799	D4
CN651	B1	C677	B4	C787	C4	D654	B4	R660	B3	R776	D1	R788	D3	TP602	A1
CN770	C1	C678	A1	C788	C5	FB780	D1	R661	B4	R778	D1	R789	D2	TP607	A1
C660	A1	C680	B5	C789	C4	L652	A1	R663	B3	R780	D1	R792	C4	U400J	A1
C664	A3	C682	B4	C790	C5	L654	A2	R664	B4	R781	D2	R793	C4	U770	D3
C665	A3	C699	A1	C791	D4	L656	B4	R665	A2	R782	D2	R794	C5	ZD650	A2
C672	B3	C780	D1	C792	D4	L657	B4	R666	B5	R783	C2	R796	C4	ZD651	B2
C673	B2	C781	D2	D650	A2	L760	C4	R669	B5	R784	C2	R798	C4	ZD652	B2
C674	B3	C782	D2	D651	A2	L761	C4	R670	B4	R785	D3	R797	C5	ZD693	B4
C675	B2	C783	D3	D652	B2	R656	A3	R672	B4	R786	C3	R798	D4	ZD654	B4

Downloaded from www.Manualslib.com manuals search engine



CN700 B1	C706 B3	C716 A3	D706 C2	Q702 B4	R703 A1	R712 B4	R720 B4	R727 C2	R746 D3	U705 B5	
CN701 C1	C708 B1	D700 C1	FB700 C3	Q703 C2	R704 A4	R713 B1	R721 B2	R728 C4	U400H A1	U706 B5	
C700 C1	C709 B2	D701 A4	FB701 B3	Q704 C4	R706 A3	R714 B1	R722 C3	R729 C1	U700 C3	U707 B5	
C701 A2	C711 C3	D702 B3	L700 A2	Q707 D3	R708 C3	R715 B4	R723 C3	R730 C2	U701 B3	ZD702 B2	
C702 A2	C713 C2	D703 B2	L701 A2	R700 A3	R709 D3	R716 B2	R724 C4	R732 C2	U702 C5	ZD703 C2	
C703 A2	C714 A3	D704 B1	Q700 B2	R701 A1	R710 B3	R717 B1	R725 C1	R733 C4	U703 C5		
C704 A2	C715 A3	D705 C3	Q701 C3	R702 A1	R711 B3	R718 B2	R726 C1	R745 C3	U704 C5		

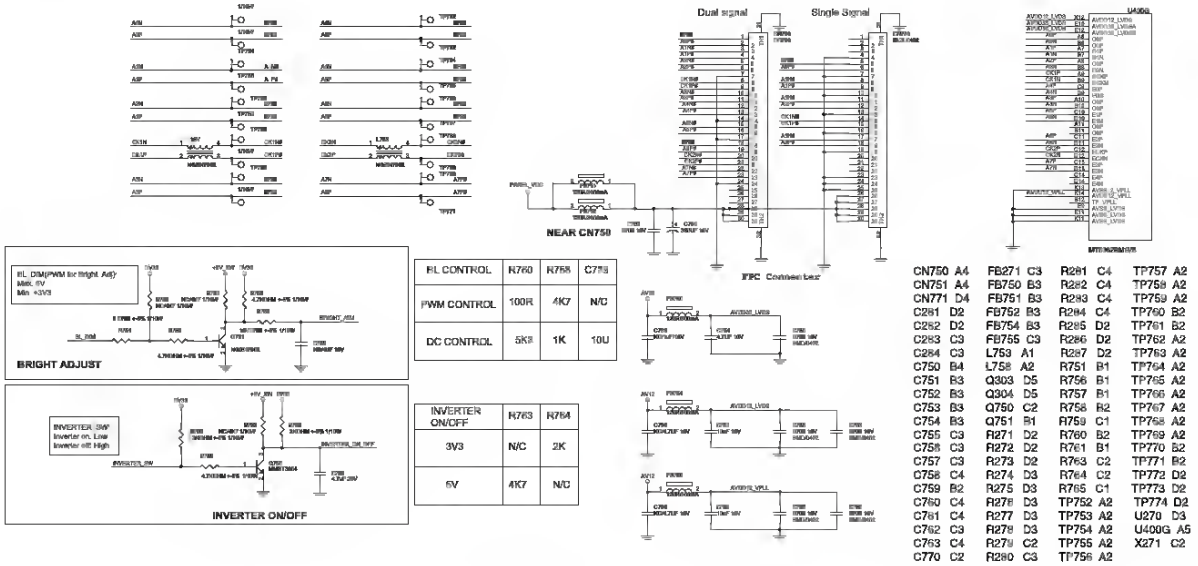
Downloaded from www.Manualslib.com manuals search engine



CN600	B5	C685	C2	R603	A1
CN602	C4	C686	D2	R610	C2
C580	D2	C687	D3	R611	A3
C582	D2	C688	A4	R612	B1
C600	B1	C689	A4	R613	A3
C601	A1	C690	B2	R614	A3
C602	A1	C691	C2	R615	A3
C603	A1	C692	A4	R616	B1
C604	A1	C693	D1	R617	C1
C605	A1	C694	A4	R618	B2
C606	A2	C695	A4	R619	B2
C607	B2	C696	C2	R620	C1
C608	B4	C697	A4	R621	C2
C609	B1	C698	C2	R622	B1
C610	B1	C710	C3	R623	A2
C611	B1	C712	C3	R624	A2
C612	B1	C720	C3	R625	C4
C613	B2	C723	A3	R626	B2
C614	A1	C724	A3	R627	B2
C615	A1	C725	A3	R628	B2
C616	A1	C726	A3	R629	B4
C617	A2	C727	A3	R630	C1
C618	A4	C728	A3	R631	A2
C619	A1	C729	A4	R632	B3
C620	A1	C730	A4	R633	C1
C621	B1	C731	A4	R634	C1
C622	C4	C732	A4	R635	B2
C623	C4	C733	A4	R636	D3
C624	C1	C734	A4	R637	B3
C625	C4	C735	B4	R638	B4
C626	B2	C736	A4	R639	C2
C627	B2	C737	A4	R640	C2
C628	B3	C738	A4	R641	C2
C629	B3	C739	A4	R642	D2
C630	B3	C740	B4	R643	D3
C631	B2	C741	A4	R644	C1
C632	B3	C742	A4	R645	D2
C633	B3	C743	A4	R646	D2
C634	B4	C744	A4	R647	D2
C635	B4	C745	B4	R648	D3
C636	B3	C746	A4	R649	C1
C637	B2	D601	C3	R650	B3
C638	B3	D602	C3	R651	B3
C639	B4	D603	B1	R652	A2
C640	B4	D604	C1	R653	B3
C641	B2	D605	B1	R654	B2
C642	B2	D606	B1	R655	A2
C643	B3	D607	C1	R658	B1
C648	C2	D608	C1	R659	C3
C645	C2	FB600	B1	R662	C3
C646	C2	FB601	A1	R667	B3
C647	C3	FB603	B1	R668	B1
C648	C3	FB606	A1	R671	D1
C648	C3	FB605	C4	R674	B2
C650	D2	FB606	D3	R675	A2
C651	D3	FB607	C4	R676	D1
C652	D3	FB608	A4	R677	A2
C653	A4	FB609	A4	R678	A2
C654	A1	FB610	A4	R680	A2
C655	D1	FB611	A4	R681	A2
C656	C4	FB612	B4	R683	B3
C657	A2	L600	B3	R684	B3
C658	A2	L601	B3	R687	D1
C659	A2	Q600	B1	R695	C2
C661	B2	Q602	C2	R696	D1
C662	A2	Q603	C2	R697	C2
C663	A2	Q600	C1	R698	A1
C666	C4	R316	A1	TP603	B4
C667	A2	R600	C2	TP604	B4
C668	A2	R601	A3	TP605	B4
C669	A2	R602	A3	TP606	B4
C670	B2	R603	C2	U400A	A1
C671	A4	R604	C2	U600	B3
C679	D1	R605	A3	U602	D2
C681	D1	R606	C2	U604	D1
C683	D2	R607	B1	U605	A3
C684	C3	R608	B1	U606	D1

Downloaded from www.Manualslib.com manuals search engine

LVDS Output



BL CONTROL	R760	R755	C759
PWM CONTROL	100R	4K7	N/C
DC CONTROL	5K3	1K	10U

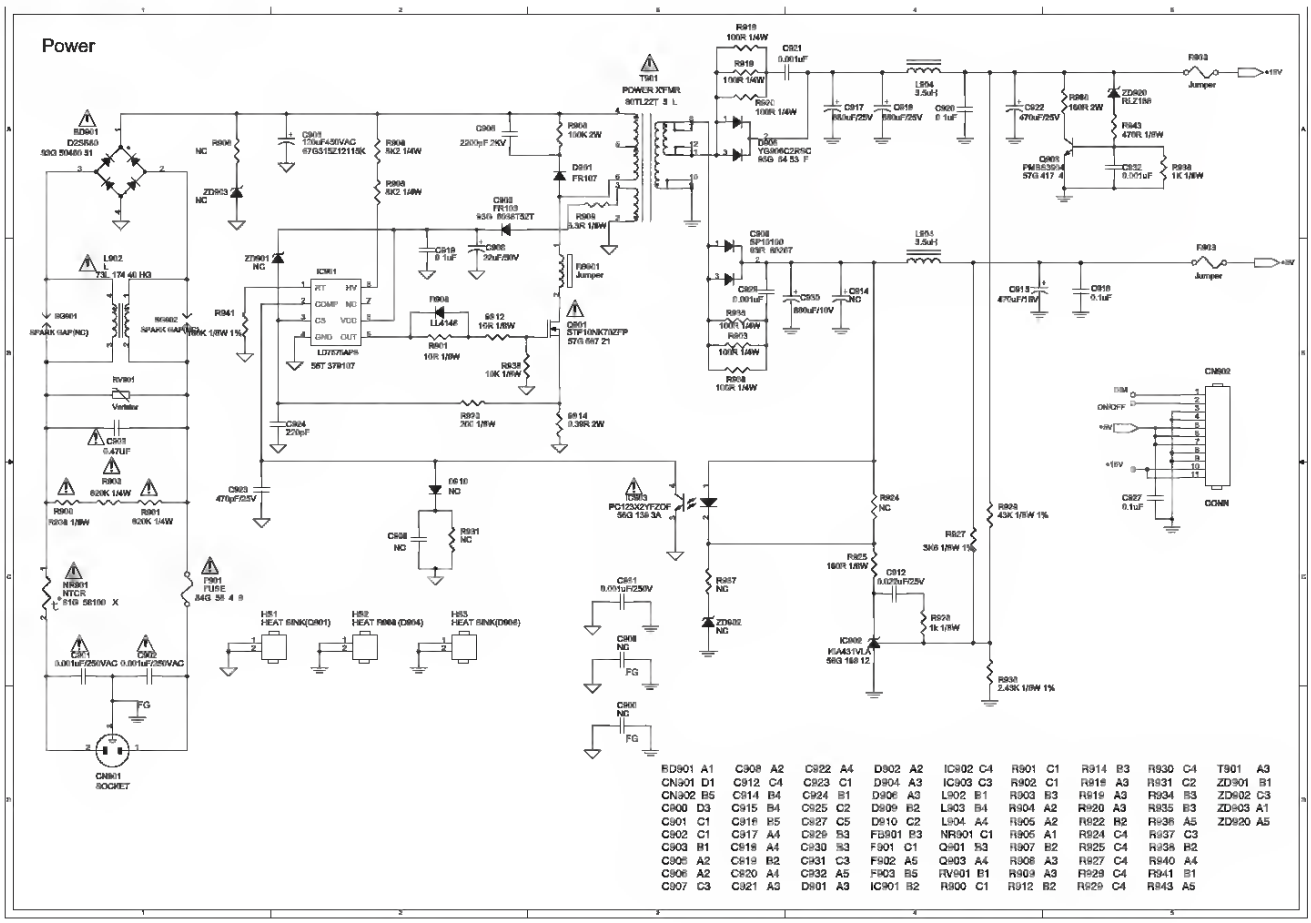
INVERTER ON/OFF	R763	R764
3V3	N/C	2K
5V	4K7	N/C

CN750	A4	FB271	C3	R281	C4	TP757	A2
CN751	A4	FB750	B3	R282	C4	TP758	A2
CN771	D4	FB751	B3	R283	C4	TP759	A2
C281	D2	FB752	B3	R284	C4	TP760	B2
C282	D2	FB754	B3	R285	D2	TP761	B2
C283	C3	FB755	C3	R286	D2	TP762	A2
C284	C3	L753	A1	R287	D2	TP763	A2
C750	B4	L758	A2	R751	B1	TP764	A2
C751	B3	Q303	D5	R756	B1	TP765	A2
C752	B3	Q304	D5	R757	B1	TP766	A2
C753	B3	Q750	C2	R758	B2	TP767	A2
C754	B3	Q751	B1	R759	C1	TP768	A2
C755	C3	R271	D2	R760	B2	TP769	A2
C756	C3	R272	D2	R761	B1	TP770	B2
C757	C3	R273	D2	R763	C2	TP771	B2
C758	C4	R274	D3	R764	C2	TP772	D2
C759	B2	R275	D3	R765	C1	TP773	D2
C760	C4	R278	D3	TP752	A2	TP774	D2
C761	C4	R277	D3	TP753	A2	U270	D3
C762	C3	R279	D3	TP754	A2	U400G	A5
C763	C4	R279	C2	TP755	A2	X271	C2
C770	C2	R280	C3	TP756	A2		

Downloaded from www.Manualslib.com manuals search engine

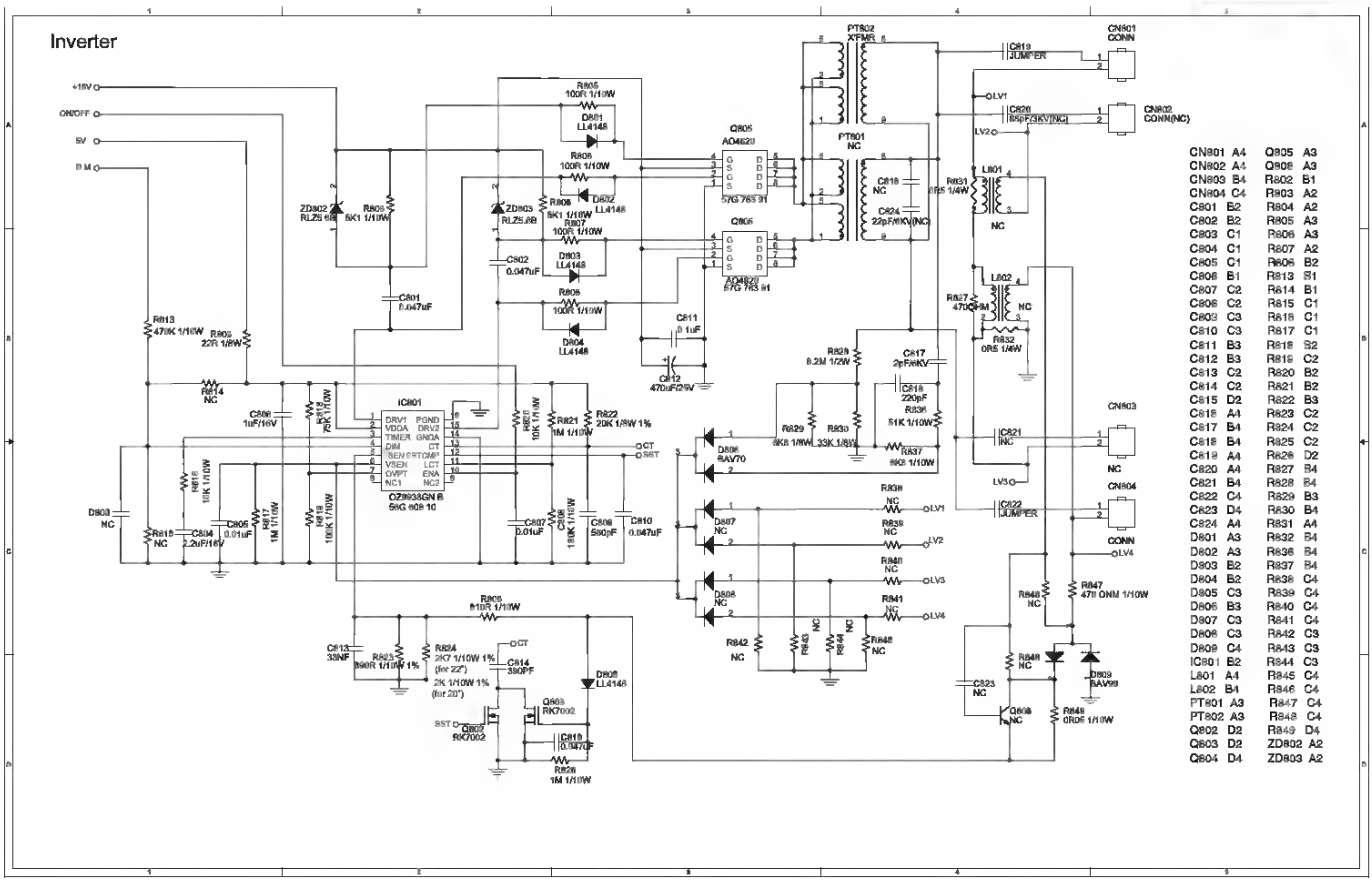
6.2 Power Board

715G2783-2-7



BD901	A1	C908	A2	C922	A4	D902	A2	IC902	C4	R901	C1	R914	B3	R930	C4	T901	A3		
CN901	D1	C912	C4	C923	C1	D904	A3	IC903	C3	R902	C1	R918	A3	R931	C2	ZD901	B1		
CN902	B5	C914	B4	C924	B1	D906	A3	L902	B1	R903	B3	R919	A3	R934	B3	ZD902	C3		
C900	D3	C915	B4	C925	C2	D909	B2	L903	B4	R904	A2	R920	A3	R935	B3	ZD903	A1		
C901	C1	C916	B5	C927	C5	D910	C2	L904	A4	R905	A2	R922	B2	R936	A5	ZD920	A5		
C902	C1	C917	A4	C929	B3	FB901	B3	NR901	C1	R906	A1	R924	C4	R937	C3				
C903	B1	C918	A4	C930	B3	F901	C1	Q901	B3	R907	B2	R925	C4	R938	B2				
C905	A2	C919	B2	C931	C3	F902	A5	Q903	A4	R908	A3	R927	C4	R940	A4				
C906	A2	C920	A4	C932	A5	F903	B5	RV901	B1	R909	A3	R929	C4	R941	B1				
C907	C3	C921	A3	D901	A3	IC901	B2	R900	C1	R912	B2	R929	C4	R943	A5				

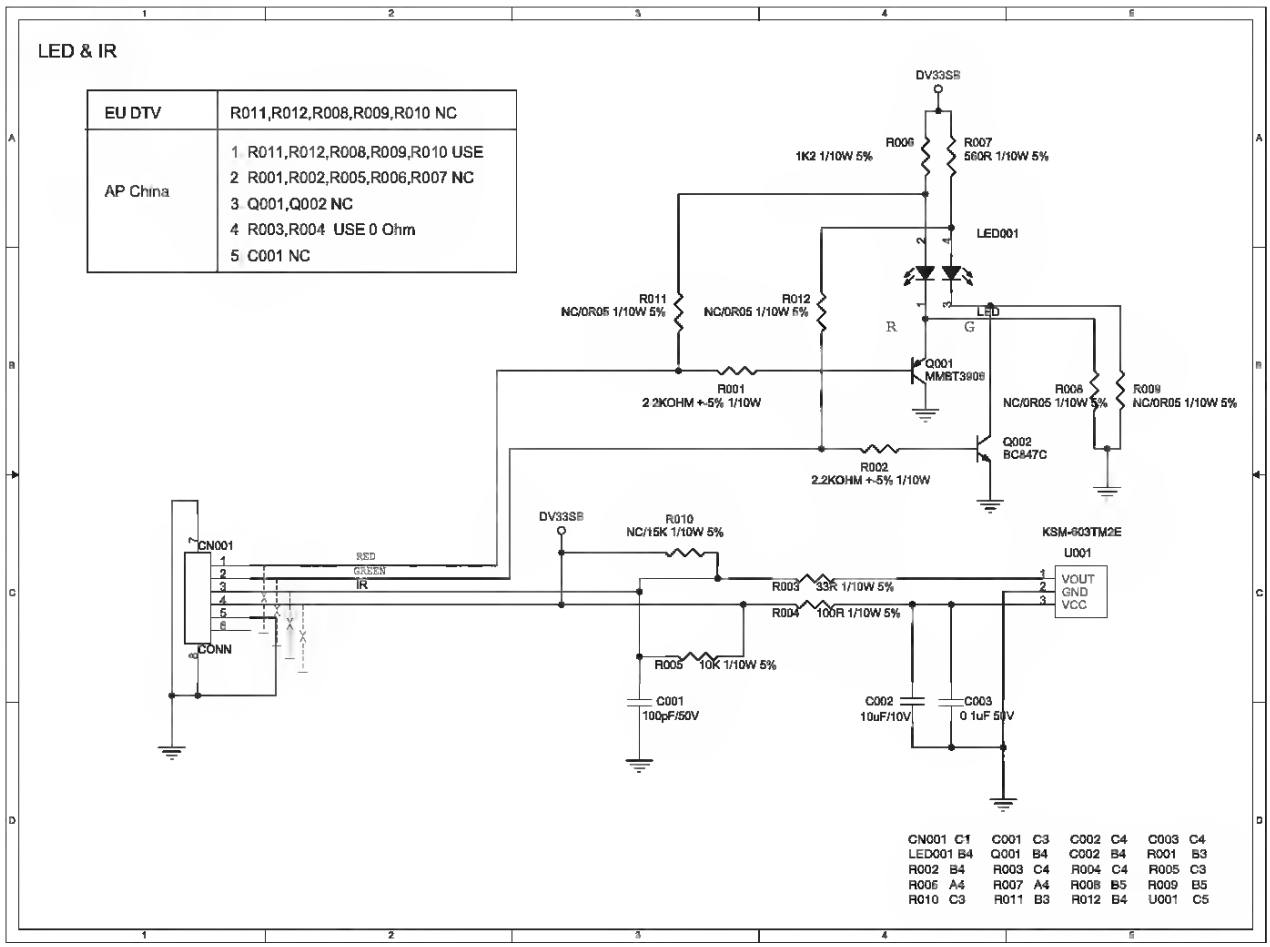
Downloaded from www.Manualslib.com manuals search engine



Downloaded from www.Manualslib.com manuals search engine

6.3 IR Board

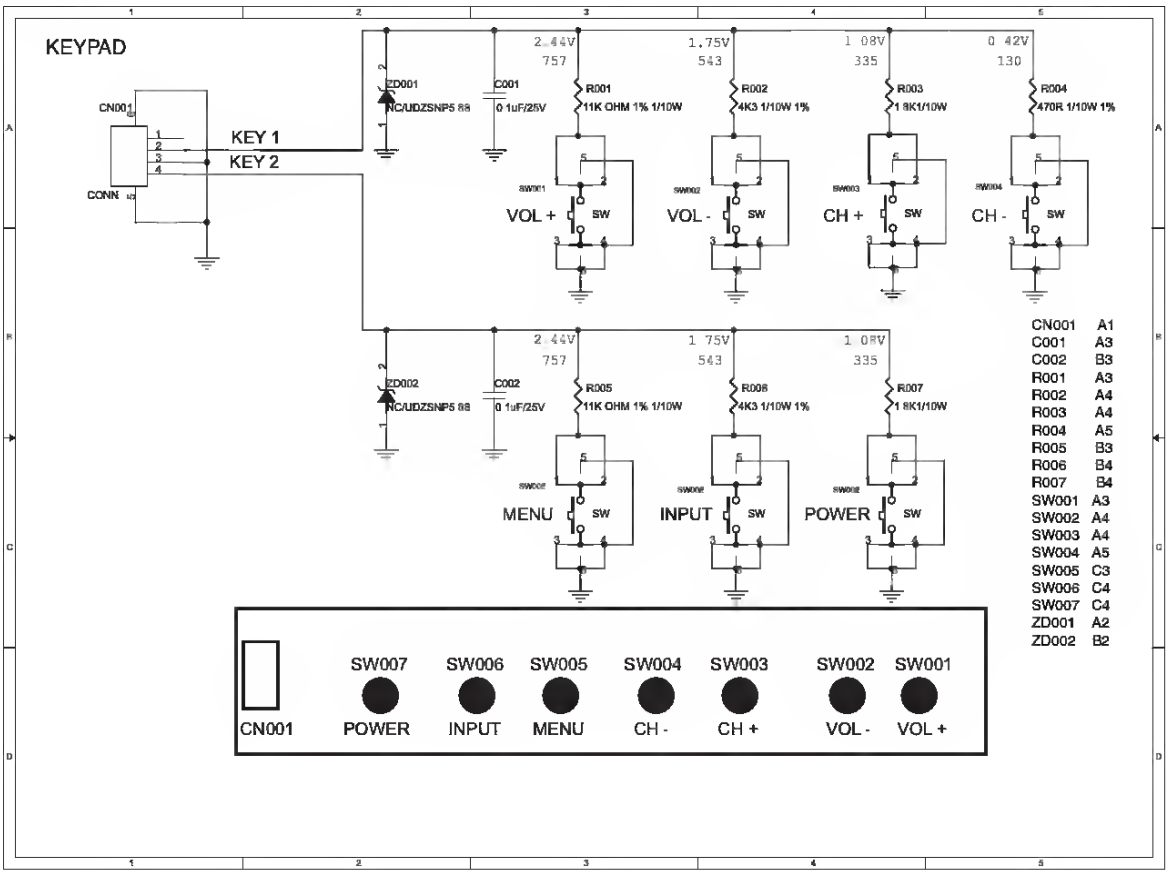
715G3561R01000004S



Downloaded from www.Manualslib.com manuals search engine

6.4 Key Board

715G3556K01000004M

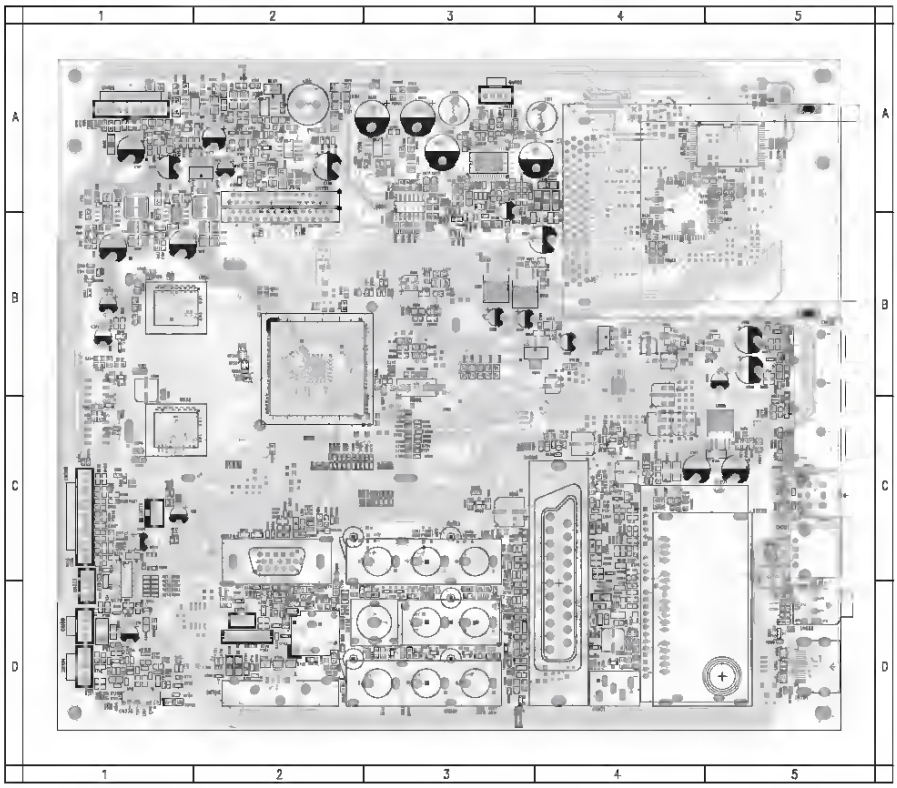


Downloaded from www.Manualslib.com manuals search engine

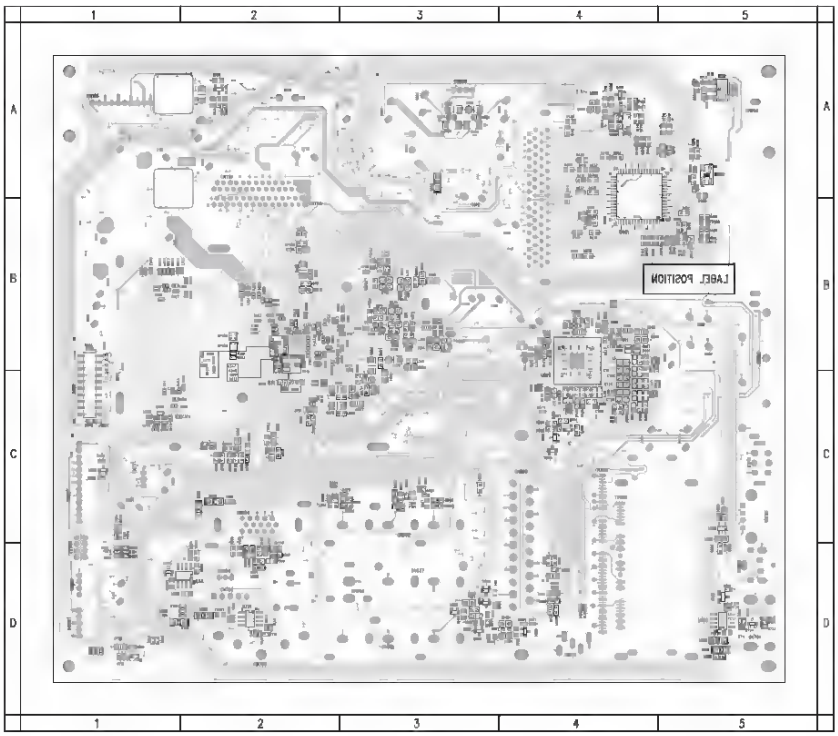
7. PCB Layout

7.1 Scaler Board

715G3292-1B



Downloaded from www.Manualslib.com manuals search engine

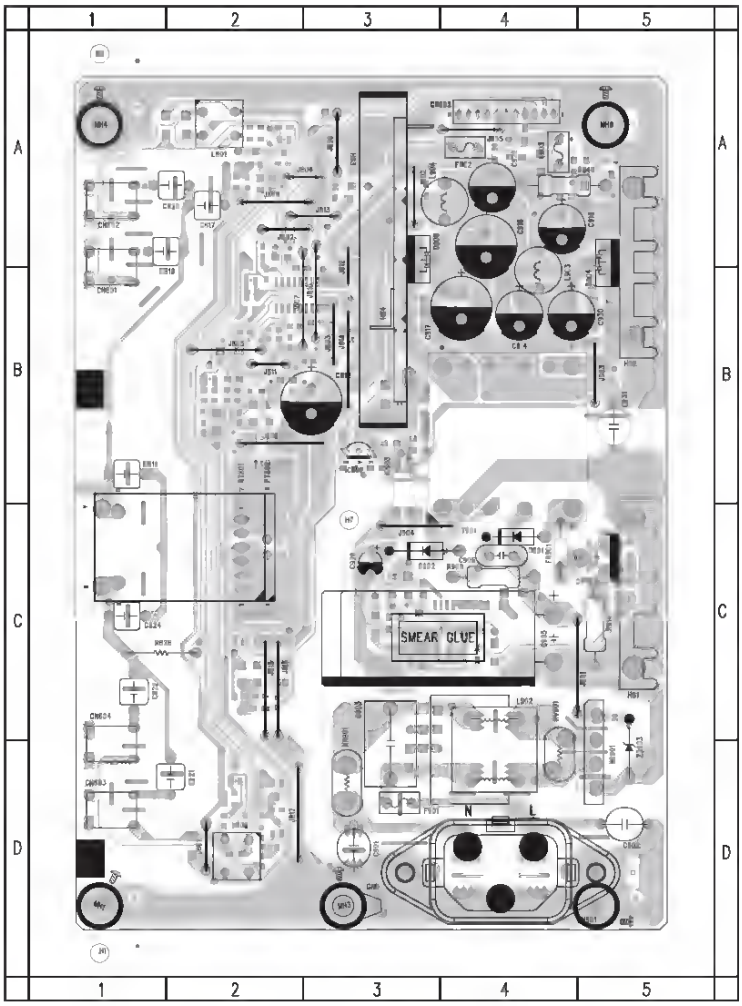


C120 B2 C356 B1 C584 C2 C739 B4 L554 C2 R411 B5 R802 C4 TP382 C1
C179 A5 C356 B1 C569 C2 C740 B4 L559 C3 R412 B5 R805 C4 TP383 C1
C175 A5 C357 B1 C569 C3 C741 C4 L558 C3 R413 B5 R811 C4 TP400 B5
C212 B2 C358 B1 C570 D2 C742 C4 L852 B2 R414 B5 R813 C4 TP401 B5
C213 B3 C365 C1 C571 C3 C743 B4 L790 C2 R415 A4 R814 C4 TP402 B5
C214 B3 C366 C1 C573 C2 C744 B4 L791 C3 R416 A4 R815 C4 TP403 B5
C219 B2 C367 C1 C574 C3 C745 B4 Q305 C1 R418 B5 R823 C4 TP404 B5
C230 B3 C369 C1 C575 B2 C750 B2 Q400 A4 R419 B5 R824 C4 TP405 A4
C231 B3 C370 C1 C580 B4 C753 B2 Q401 A4 R420 B5 R829 A3 TP406 A4
C232 B2 C371 C2 C582 B4 C754 B2 Q500 D3 R421 B5 R831 D4 TP407 A4
C233 B3 C372 B2 C584 C3 C755 B3 Q501 D3 R422 A4 R838 A3 TP408 B4
C236 B3 C375 B1 C584 B3 C756 B3 Q504 D4 R423 A4 R850 B4 TP409 B4
C238 B2 C376 B1 C600 B2 C757 B3 Q505 D3 R424 A4 R851 B4 TP410 B4
C236 B3 C377 B1 C605 B3 C758 B3 Q506 D4 R425 A4 R852 C4 TP411 B4
C237 B3 C378 B2 C608 D4 C760 B3 Q509 D3 R426 A4 R853 B4 TP412 B4
C238 B3 C380 B2 C607 D4 C761 B3 Q514 C4 R427 A4 R854 D4 TP413 B4
C250 B2 C381 B2 C608 B4 C762 B3 Q515 D4 R428 A5 R855 C4 TP414 B4
C251 B2 C382 B2 C609 B3 C763 B2 Q550 D1 R429 A5 R856 B4 TP602 C2
C252 B2 C383 B2 C610 B3 C770 A2 Q704 D5 R430 A4 R867 B4 TP603 A3
C253 B2 C384 B2 C611 B3 C791 D1 C707 D5 R431 B4 R873 C4 TP604 A4
C254 B2 C385 B2 C612 B3 C792 D1 C750 A2 R432 A4 R874 C4 TP605 A3
C255 B2 C386 B2 C613 B2 D506 D4 R175 A5 R433 B4 R875 C4 TP606 A3
C256 B2 C387 B2 C614 B3 D553 C3 R259 D4 R435 A5 R877 C4 TP607 C2
C259 B2 C388 B1 C615 B3 D554 C3 R212 D4 R438 A5 R879 C4 TP752 B2
C262 B2 C400 A5 C617 B3 D555 C3 R220 C3 R437 B4 R880 B4 TP753 B2
C263 B2 C401 A5 C618 B4 D564 C2 R254 C2 R438 B4 R881 B4 TP754 B2
C264 B2 C402 A4 C620 B3 D565 C2 R258 C2 R439 A4 R898 B2 TP755 A2
C265 B2 C403 A4 C634 A3 D566 D2 R268 C2 R440 B4 R700 D2 TP756 B2
C266 B2 C405 A5 C635 A3 D566 D2 R265 C2 R441 B4 R701 D1 TP757 A2
C267 B2 C407 B5 C639 A3 D571 D2 R267 C2 R444 B1 R702 D1 TP758 A2
C268 B2 C408 A5 C640 A3 D606 A3 R269 C2 R445 B1 R704 D2 TP759 B2
C269 B2 C412 B5 C643 C4 D700 D5 R266 C2 R446 C1 R705 D2 TP760 A2
C270 B2 C424 B5 C649 C4 D701 D1 R270 C2 R447 C1 R706 D5 TP761 A2
C271 B2 C425 A4 C660 B2 D702 D2 R271 D1 R505 D4 R710 D2 TP762 B2
C272 B2 C431 A4 C661 D4 D705 D5 R272 D1 R511 C4 R711 D2 TP763 B2
C273 C2 C432 B4 C662 D4 D706 D5 R273 D1 R523 D4 R712 D2 TP764 B2
C274 B2 C433 A4 C663 B4 FB200 B3 R288 D1 R525 D4 R713 D2 TP765 B2
C275 B2 C434 B4 C671 B4 FB207 B3 R286 D1 R528 D4 R714 D2 TP766 B2
C276 B2 C435 B4 C678 B2 FB208 B3 R287 D1 R527 D3 R715 D2 TP767 B2
C277 B2 C436 A4 C688 B4 FB266 B3 R288 C1 R541 D3 R722 D5 TP768 A2
C307 B2 C437 A4 C689 B4 FB302 B3 R289 C1 R543 D3 R723 D5 TP769 B2
C309 B3 C438 B4 C693 B2 FB303 B3 R300 C3 R544 D4 R724 D5 TP770 B2
C310 B3 C440 B5 C701 C2 FB322 C2 R317 C2 R545 D3 R725 D5 TP771 B2
C311 B3 C441 C1 C702 C2 FB323 C2 R321 C1 R549 D3 R726 D5 TP772 D1
C319 C2 C442 C1 C703 C3 FB404 A4 R323 C1 R550 D3 R728 D5 TP773 D1
C320 B3 C443 B1 C704 C3 FB405 A4 R324 C1 R552 D2 R733 D5 TP774 C1
C326 C2 C444 C1 C705 D2 FB407 B5 R326 C1 R554 D1 R759 A2 U156 A5
C327 B2 C512 D4 C711 D5 FB409 B5 R329 C2 R555 D2 R760 A2 U303 C5
C329 C2 C513 D4 C714 C2 FB409 A4 R334 C5 R558 C2 R764 A2 U401 B4
C330 C2 C514 D4 C715 C2 FB600 B3 R335 C2 R558 D2 R765 A2 U536 D2
C332 B3 C531 D4 C716 B2 FB603 B3 R339 B4 R561 C3 R778 D1 U605 B4
C333 B3 C532 D3 C725 B4 FB604 B3 R340 D5 R564 C2 R776 D1 U700 D5
C336 C5 C533 D4 C724 C4 FB608 C4 R351 B2 R565 C3 R784 D1 U701 D2
C335 C5 C534 D4 C725 C4 FB609 C4 R353 B2 R566 C3 R799 D1 X400 A6
C338 D5 C535 D3 C726 C4 FB610 B4 R355 B1 R566 D3 RP352 B2 ZD504 D4
C340 B1 C536 D3 C727 D4 FB611 B4 R359 C1 R570 D3 RP353 B2 ZD550 C3
C341 C1 C541 D2 C728 C4 FB612 B4 R360 C1 R574 C4 TH400 A4 ZD551 C3
C342 C1 C542 D2 C729 C4 FB700 D5 R361 B1 R575 C4 TP101 A1 ZD562 C3
C343 C1 C550 B2 C730 B4 FB701 D2 R400 A5 R576 C4 TP102 A1 ZD561 D2
C344 C1 C551 C2 C731 B4 FB750 B2 R401 B4 R577 C4 TP103 A1 ZD562 D2
C345 B1 C552 C3 C732 D4 FB754 B3 R402 A4 R585 D3 TP104 A1 ZD563 D2
C346 C1 C553 C2 C733 B4 FB755 B3 R403 A4 R589 D2 TP105 A1
C347 B2 C554 B3 C734 B4 J380 C1 R404 A4 R590 D2 TP250 B2
C348 B2 C555 B3 C735 B4 L550 C3 R405 A4 R592 C4 TP300 B2
C349 B2 C557 C3 C736 D4 L351 B3 R406 B4 R595 D4 TP301 C2
C350 B2 C558 B2 C737 C4 L552 C3 R406 A4 R599 D2 TP380 C1
C354 B2 D554 C2 C738 B4 L553 B3 R410 A5 R601 C4 TP391 C1

Downloaded from www.Manualslib.com manuals search engine

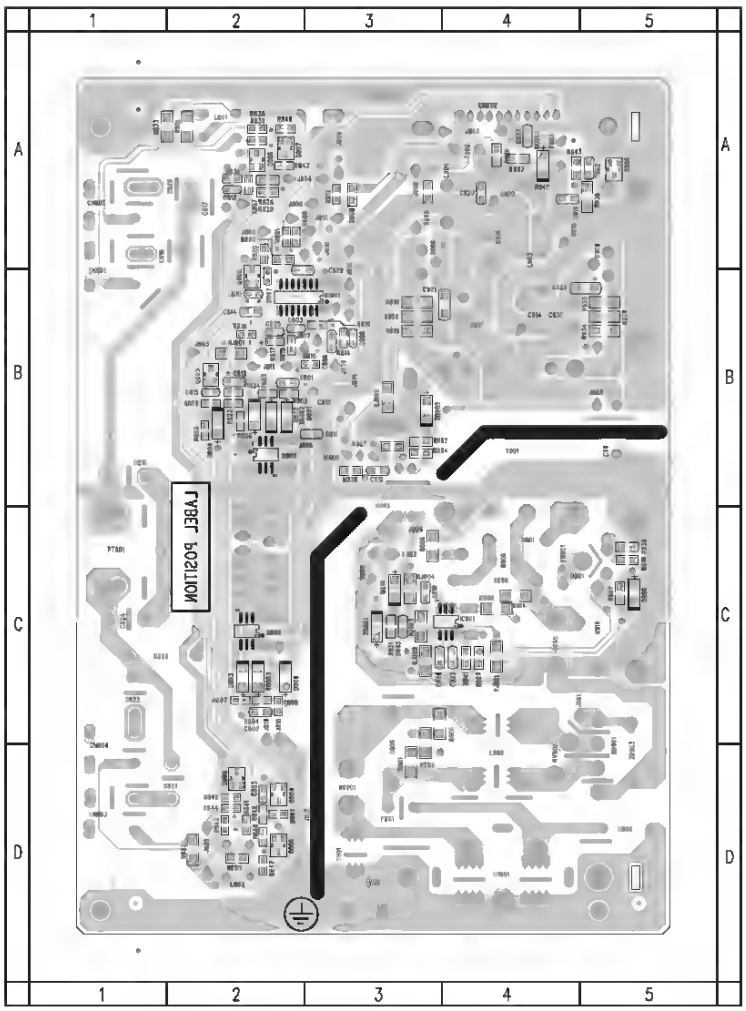
7.2 Power Board

715G2783-2-7



BD901	D5	J801	D2
C812	B3	J802	A3
C816	B1	J803	B3
C817	A2	J804	A3
C819	A2	J805	B2
C820	A2	J806	B2
C821	D2	J807	B3
C822	C1	J808	A2
C824	C1	J809	A3
C901	D3	J810	B3
C902	D5	J811	B2
C903	D3	J812	B3
C905	C4	J813	A2
C906	C4	J814	B3
C908	C3	J815	C2
C914	B4	J816	C2
C915	A4	J817	D2
C917	B4	J901	C5
C918	A4	J902	A3
C922	A4	J903	B5
C930	B4	J904	C4
C931	B5	J905	A4
CN801	A1	L801	A2
CN802	A1	L802	D2
CN803	D1	L902	D4
CN804	D1	L903	B4
CN901	D4	L904	A4
CN902	A4	NR901	D3
D901	C4	PT801	C2
D902	C3	PT802	C2
D904	A5	Q901	C5
D906	A3	R828	C1
F901	D3	R908	C4
F902	A4	R914	C5
F903	A4	R940	A5
FB901	C4	RV901	D4
IC902	B3	T901	B4
IC903	B3	ZD903	C5

Downloaded from www.Manualslib.com manuals search engine

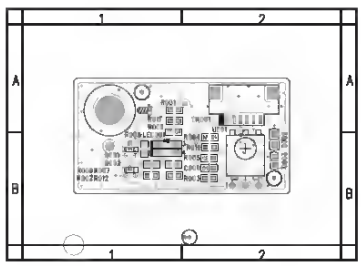


C801	B2	Q804	D2	R847	D2
C802	C2	Q805	B2	R848	D2
C803	B2	Q806	C2	R849	D2
C804	B3	Q903	A5	R900	C3
C805	B2	R802	A3	R901	D3
C806	B3	R803	B2	R902	C3
C807	B2	R804	C2	R903	B5
C808	A2	R805	B2	R904	C4
C809	B2	R806	B2	R905	C4
C810	B2	R807	C2	R907	C5
C811	B3	R808	C2	R909	C3
C813	B2	R813	A3	R912	C5
C814	B2	R814	B3	R918	B3
C815	B2	R815	B2	R919	B3
C818	A2	R816	B3	R920	B3
C823	D2	R817	B2	R922	C4
C912	B3	R818	B3	R924	B3
C916	A4	R819	B2	R925	B3
C919	C3	R820	A2	R927	A4
C920	A4	R821	A2	R928	B3
C921	B4	R822	A2	R929	A4
C923	C4	R823	B2	R930	A3
C924	C3	R824	B2	R931	C3
C925	C3	R825	B2	R934	B5
C927	A4	R826	B2	R935	B5
C929	B5	R827	D2	R936	A5
C932	A5	R829	A2	R937	B3
D801	B2	R830	A2	R938	C5
D802	B2	R831	A2	R941	C4
D803	C2	R832	D2	R943	A4
D804	C2	R833	A2	RJ801	B2
D805	B2	R836	A2	RJ901	C4
D806	A2	R837	A2	RJ902	B3
D807	A2	R838	A2	RJ903	C3
D808	D2	R839	A2	RJ904	C3
D809	D2	R840	D2	RJ905	C3
D909	C5	R841	D2	ZD802	B2
D910	C3	R842	A2	ZD803	C2
IC801	B3	R843	A2	ZD901	C3
IC901	C4	R844	D2	ZD902	B3
Q802	B2	R845	D2	ZD920	A4
Q803	B2	R846	D2		

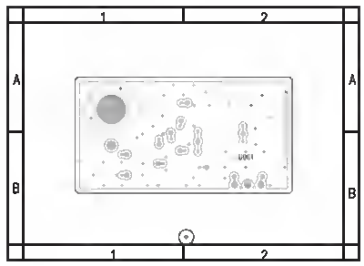
Downloaded from www.Manualslib.com manuals search engine

7.3 IR Board

715G3561R01000004S

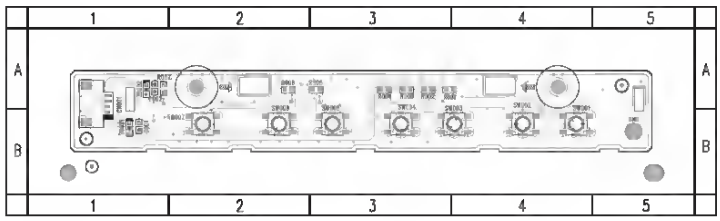


C001	B2	R004	B2
C002	B2	R005	B2
C003	B2	R006	A1
CN001	A2	R007	B1
LED001	B1	R008	B1
Q001	B1	R009	B1
Q002	B1	R010	B2
R001	A1	R011	A1
R002	B1	R012	B1
R003	B2	U001	B2

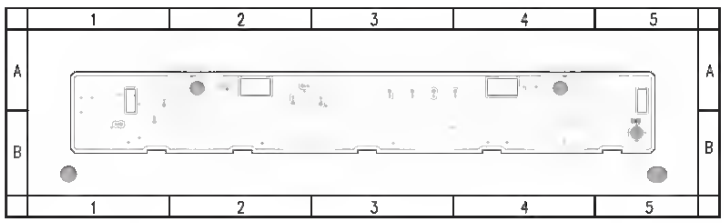


7.4 Key Board

715G3556K01000004M

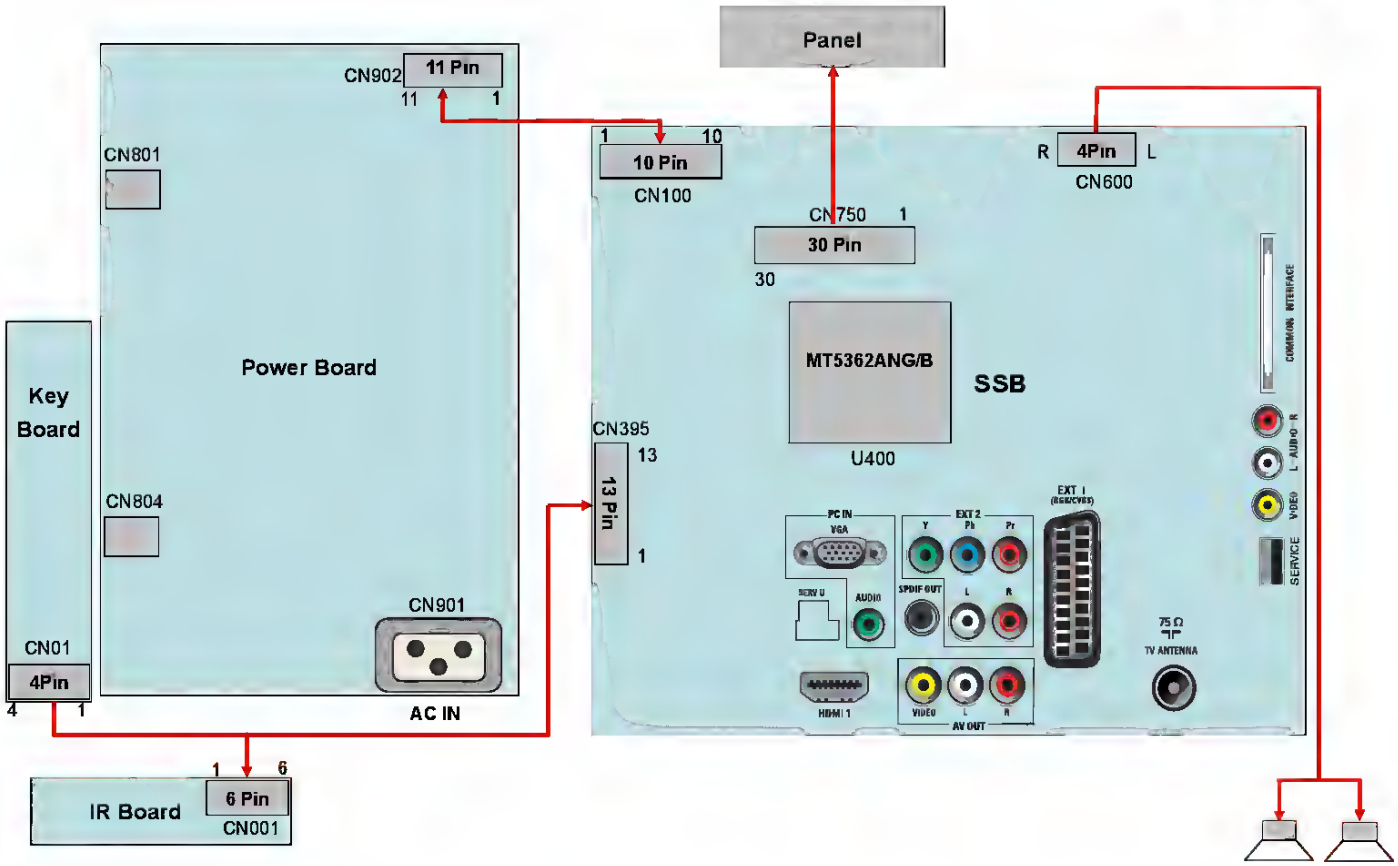


C001	B1	SW001	B5
C002	A1	SW002	B4
CN001	A1	SW003	B4
R001	A4	SW004	B3
R002	A4	SW005	B3
R003	A3	SW006	B2
R004	A3	SW007	B2
R005	A3	ZD001	B1
R006	A2	ZD002	A1
R007	A2		



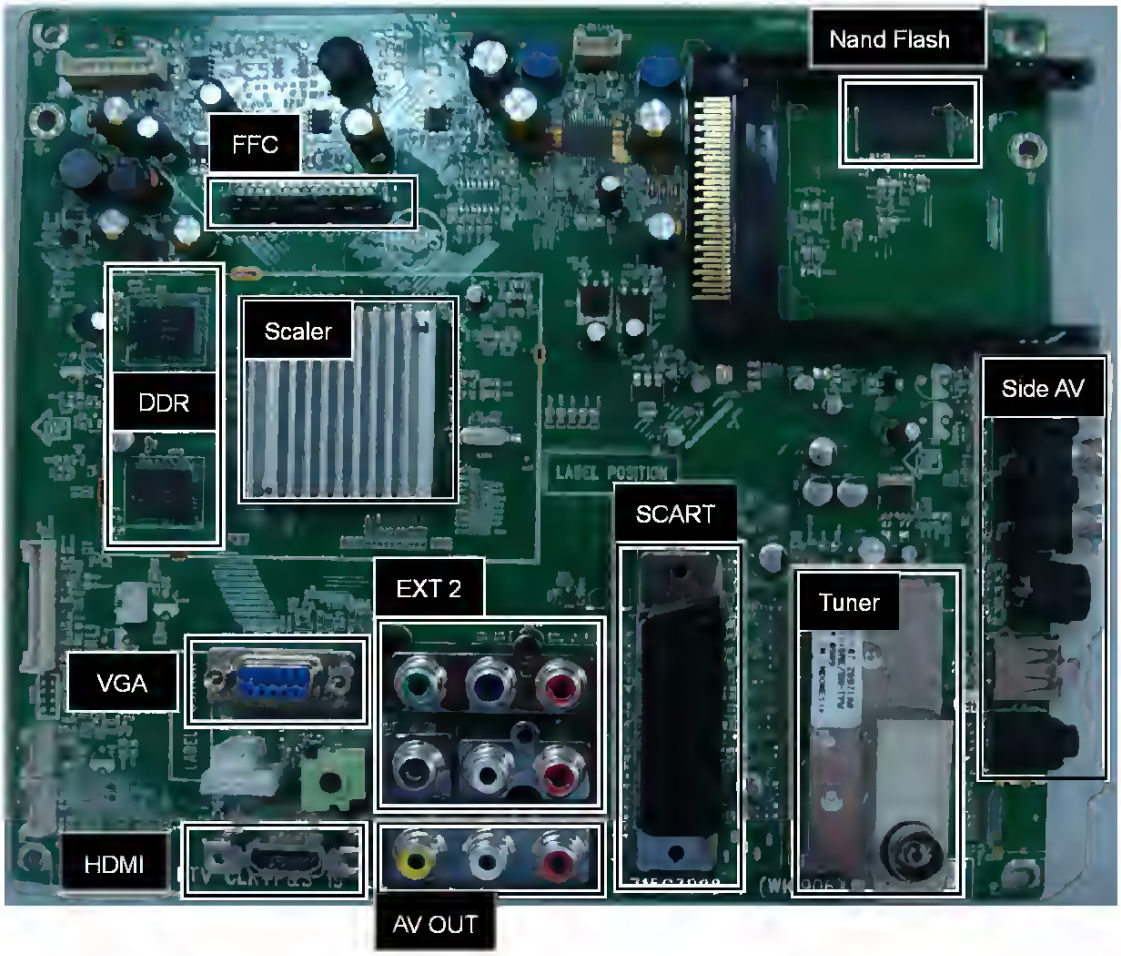
Downloaded from www.Manualslib.com manuals search engine

8. Wiring Diagram



Downloaded from www.Manualslib.com manuals search engine

9. Scaler Board Overview



Downloaded from www.Manualslib.com manuals search engine

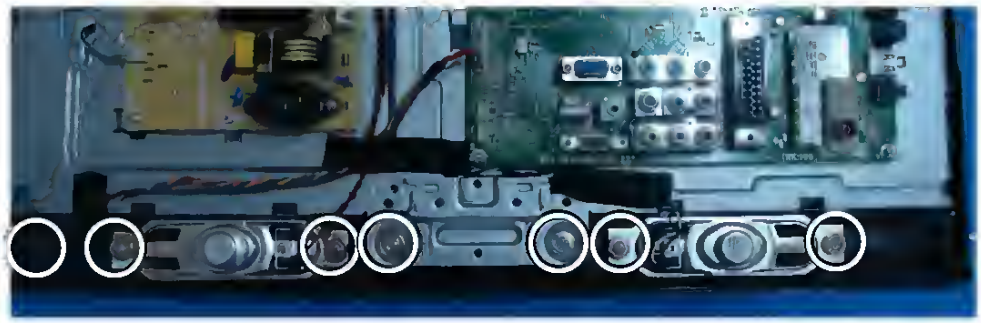
10. Mechanical Instructions

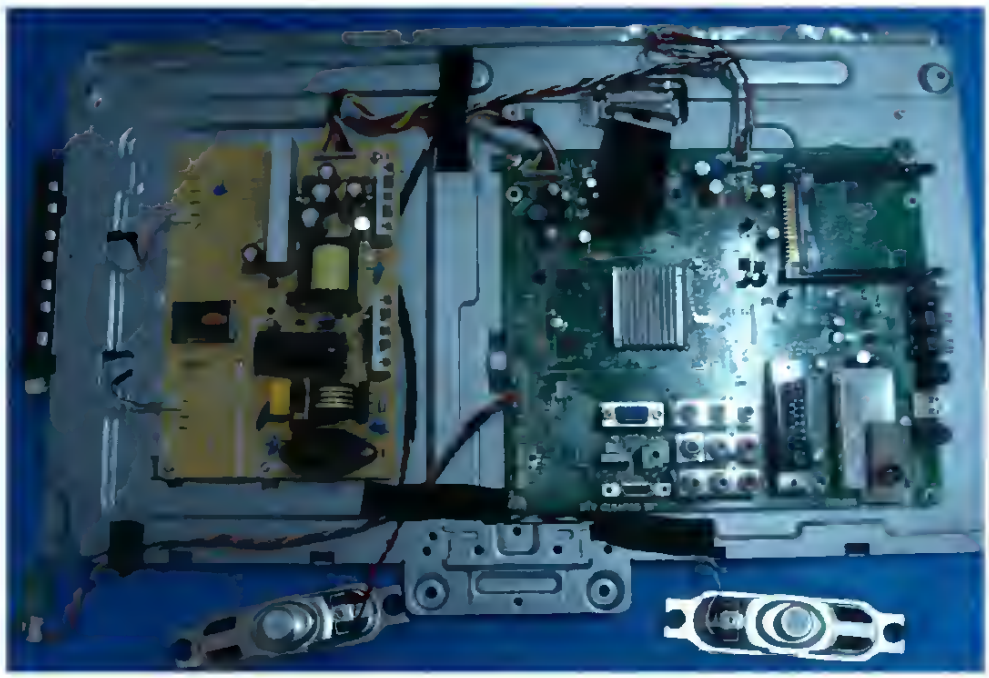
1. Carefully place the TV monitor face down on a smooth surface. Using a cross-head screwdriver unscrew **three** screws that secure the stand to the TV monitor, and firmly pull the stand from the bottom of the TV
2. Unscrew **four** screws that secure the rear cover to the TV monitor, and remove the rear cover.

Note: Be careful to avoid scratch and injury during the process of uninstall.

Downloaded from www.Manualslib.com manuals search engine

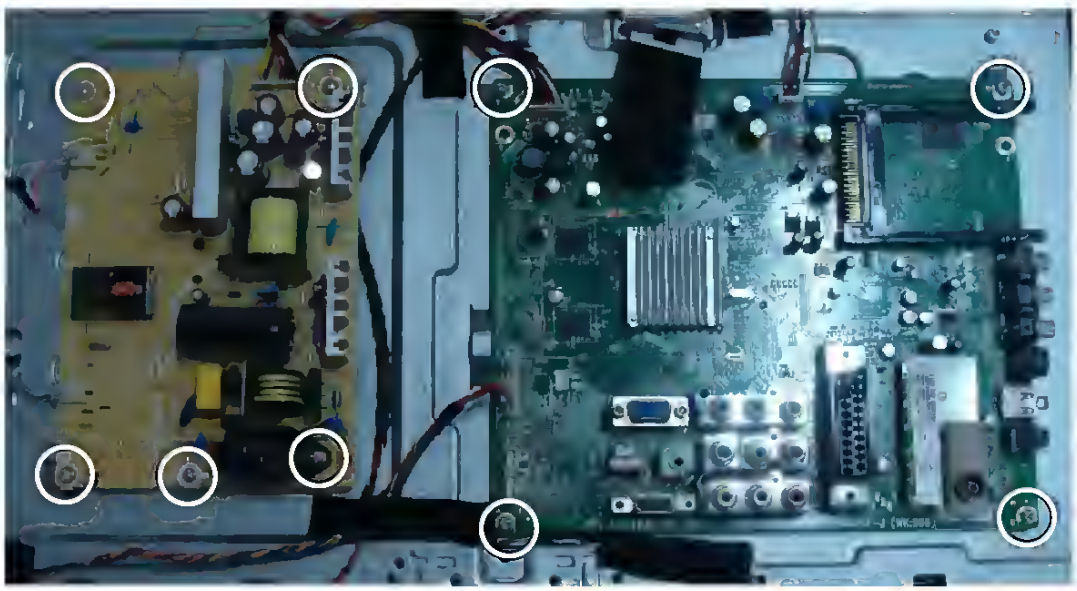
3. Unscrew the screws that secure IR board, speakers and main frame to the bezel, and remove the bezel.





4 Remove the main frame

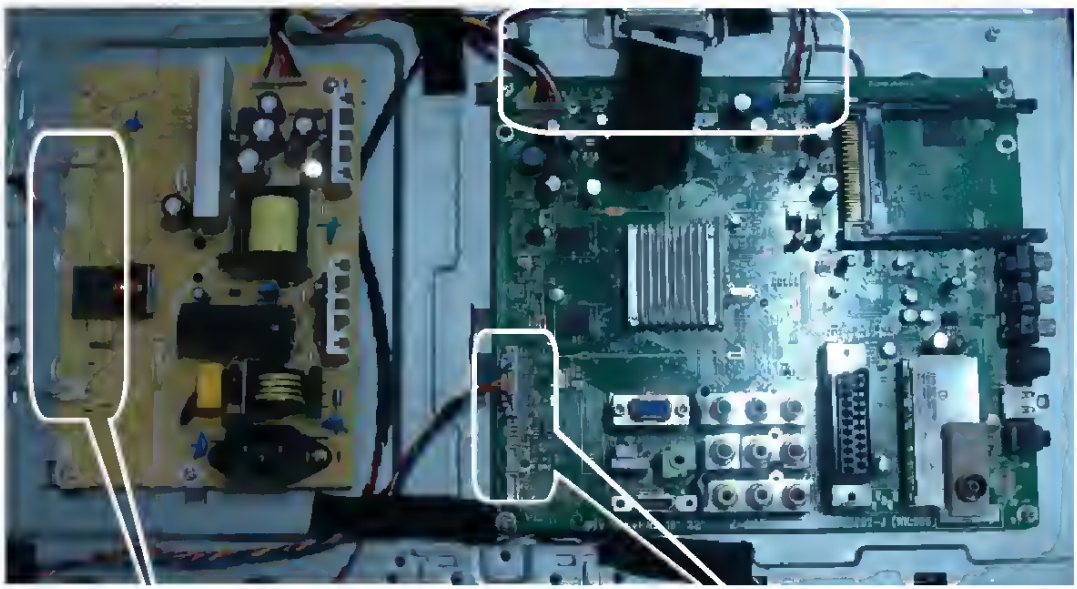
A. Unscrew the screws that secure scaler board and power board to the main frame, and remove the boards.



Downloaded from www.Manualslib.com manuals search engine

B. Unscrew the screws that secure the main frame to the panel.

C. Disconnect the connectors.



Downloaded from www.Manualslib.com manuals search engine

11. Trouble Shooting

This section describes commonly encountered issues and accompanying solutions.

General TV issues

1. The TV does not switch on

- Disconnect the power cable from the power outlet. Wait for one minute then reconnect it.
- Check that the power cable is securely connected.

2. The remote control is not working properly:

- Check that the remote control batteries are correctly inserted according to the + / - orientation.
- Replace the remote control batteries if they are flat or weak.
- Clean the remote control and TV sensor lens.

3. The standby light on the TV blinks red

- Disconnect the power cable from the power outlet. Wait until the TV cools down before reconnecting the power cable. If the blinking reoccurs, contact Philips Consumer Care.

4. You forgot the code to unlock the TV lock feature

- Enter '5351'.

5. The TV menu is in the wrong language

- Change the TV menu to your preferred language.
- When turning the TV on/off/to standby, you hear a creaking sound from the TV chassis.
- No action is required. The creaking sound is normal expansion and contraction of the TV as it cools and warms up. This does not impact performance.

TV channel issues

1. Previously installed channels do not appear in the channel list:

- Check that the correct channel list is selected.

2. No digital channels were found during the installation

- Check that the TV supports DVB-T or DVB-C in your country. See the listed countries on the back of the TV.

Picture issues

1. The TV is on, but there is no picture:

- Check that the antenna is properly connected to the TV.
- Check that the correct device is selected as the TV source.

2. There is sound but no picture:

- Check that the picture settings are correctly set.

Downloaded from www.Manualslib.com manuals search engine

3. **There is poor TV reception from an antenna connection:**

- Check that the antenna is properly connected to the TV.
- Loud speakers, unearthed audio devices, neon lights, high buildings and other large objects can influence reception quality. If possible, try to improve the reception quality by changing the antenna direction or moving devices away from the TV.
- If reception on only one channel is poor, fine tune this channel.

4. **There is poor picture quality from connected devices:**

- Check that the devices are connected properly
- Check that the picture settings are correctly set.

5. **The TV did not save your picture settings:**

- Check that the TV location is set to the home setting. This mode offers you the flexibility to change and save settings.

6. **The picture does not fit the screen; it is too big or too small:**

- Try using a different picture format

7. **The picture position is incorrect:**

- Picture signals from some devices may not fit the screen correctly. Check the signal output of the device.

Sound issues

1. **There is a picture but no sound from the TV:**

Note: If no audio signal is detected, the TV automatically switches the audio output off — this does not indicate malfunction.

- Check that all cables are properly connected.
- Check that the volume is not set to 0.
- Check that the sound is not muted.

2. **There is a picture but the sound quality is poor:**

- Check that the sound settings are correctly set.

3. **There is a picture but sound comes from one speaker only:**

- Verify that sound balance is set to the centre.

HDMI connection issues

There are problems with HDMI devices:

- Note that HDCP support can delay the time taken for a TV to display content from a HDMI device.
- If the TV does not recognize the HDMI device and no pictures are displayed, try switching the source from one device to another and back again.
- If there are intermittent sound disruptions, check that output settings from the HDMI device are correct.

Downloaded from www.Manualslib.com manuals search engine

- If a HDMI-to-DVI adaptor or HDMI to •DVI cable is used, check that an additional or AUDIO IN (mini-jack only)

Computer connection issues

The computer display on the TV is not stable:

- Check that a supported resolution and refresh rate is selected on the computer.
- Set the TV picture format to unscaled.

Contact us

If you cannot resolve your problem, refer to the FAQs for this TV at www.philips.com/support

If the problem remains unresolved, contact Philips Consumer Care in your country as listed in this User Manual

Warning:

Do not attempt to repair the TV yourself. This •may cause severe injury, irreparable damage to your TV or void your warranty.

Note:

Make a note of your TV model and serial •number before you contact Philips. These numbers are printed on the back of the TV and on the packaging.

Downloaded from www.Manualslib.com manuals search engine

12. ISP Instruction

For the procedure you will require:

1 A personal computer with web browsing capability
2 An archive utility that supports the ZIP-format (e g WinZip for Windowsor Stuffit for Mac OS)
3 Preferably empty USB memory stick

Note Only FAT/DOS-formatted portable memory is supported

Software upgrades procedure

1 Decompress the ZIP-file and copy the file **upgrade.pkg** to the root directory of the USB portable memory
2 Power off your TV and remove all memory devices
3 Insert the USB portable memory that contains the software upgrade

4 Switch on your TV with the power switch at the right side of the TV
5 At startup the TV will scan the USB portable memory until it finds the update content. The TV will automatically go to the upgrade mode. The light will flash. After a few seconds it will display the status of the upgrade procedure

6 When the software upgrade was successful, remove the USB portable memory (not supplied) and restart your TV with the power switch ⏻ at the right side of the TV
7 Press the MENU button, and then press Number key 1→9→ 9→9 on the remote control to enter the factory mode, and check the software version

Downloaded from www.Manualslib.com manuals search engine

13. White Balance, Luminance Adjustment

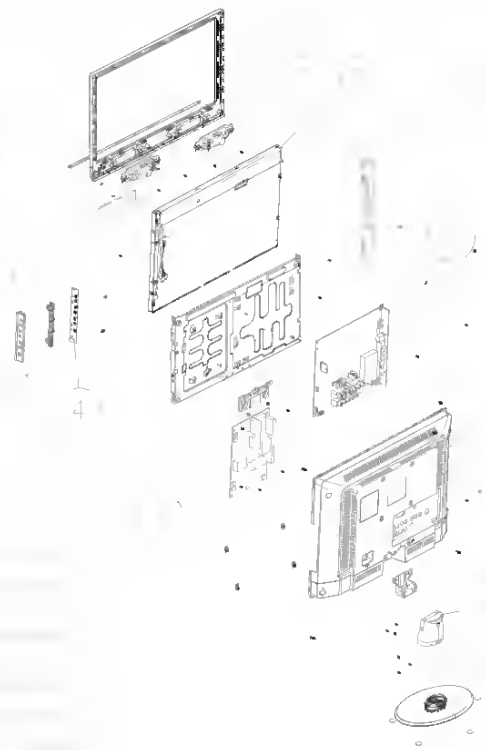
It is not necessary to adjust the white balance of this set.

Into Factory mode

Press the MENU button, and then press Number key 1→9→ 9→9 on the remote control to enter the factory mode

Downloaded from www.Manualslib.com manuals search engine

14. Monitor Exploded View



Downloaded from www.Manualslib.com manuals search engine

15. Recommended & Spare Parts List

201T1SB/00

Item	Location	PCM Codes	Description	Remark
1	FQ101	705TQ934A05	BEZEL ASS`Y	CMO
1	FQ101	705TQ934A02	BEZEL ASS`Y	SEC
2	E07801	078G 520 2 Y	SPEAKER 6 OHM 5 5W 750/600mm 125X32mm	
3	FQ405	Q33T0331BDY 1L0100	KEY BUTTON	
4	FQ004	KEPF9QP1	KEY BOARD ASSY	
5	E750	750TVM200O1211M0PH	PANEL M200O1-L02 C1 TW CMO	
5	E750	750TVM200O1212M0PH	PANEL M200O1-L02 C1 NB CMO	
5	E750	750TVS200KT311M0PH	PANEL LTM200KT03 KR SEC	
5	E750	750TVS200KT312M0PH	PANEL LTM200KT03 SZ SEC	
6	FQ007	IRPF9QP1	IR BOARD ASSY	
7	FQ003	PWTV9A41EQX8	POWER BOARD ASSY	
8	FQ002	756TQ9CB 5B001	SCALER ASSY(CBPF92LBQP)	CMO
8	FQ002	756TQ9CB 5B002	SCALER ASSY(CBPF92LBQP)	SEC
9	FQ102	705TQ934A06	Rear COVER ASS`Y	CMO
9	FQ102	705TQ934A03	Rear COVER ASS`Y	SEC
10	FQ103	705TQ934A04	STAND ASS'Y	
	E08904	089G 17356X553	AUDIO CABLE	
	E08902	089G 728CAA 2G	SIGNAL CABLE	
	FQ304	089G179W30NH16	FFC CABLE 30PIN P1 0 190MM	
	FQ301	089G404A18N IS	POWER CORD	
	FQ404	098GRABDWNTPHJ	REMOTE CONTROL PHILIPS	
	FQ205	705GQ9CS087	CUSHION ASSY	
	FQ202	Q44GA076813 1A	20 LCD TV CARTON	
	IC903	056G 139 3A	IC PC123Y22FZ0F	
	PT802	080GL24T 23 DN	X'FMR 68uH TK 2005Y 101 VOC	
	T901	080TL22T 5 L	X'FMR 530uH PT-009527-3	
	IC901	056G 379107	IC LD7575A PS SOP-8	
	IC801	056G 608 10	IC OZ9938GN-B SOIC-16	
	IC902	056G 158 12	KIA431A-AT/P TO-92	
	F901	084G 56 4 B	FUSE 4A 250V	
	FQ002	756TQ9CB 5B001	SCALER ASSY(CBPF92LBQP)	

Downloaded from www.Manualslib.com manuals search engine

	U390	100TPKMA001BT1	FLASH ASSY(056G1133949)	
	U301	100TPKMA003BT1	MCU ASSY(056G113353A)	CMO
	U301	100TPKSA001BT1	MCU ASSY(056G113353A)	SEC
	U701	100TPKMAA01BTE	EEPROM ASSY(056G1133 34)	
	U550	100TPKMAV01BTE	EEPROM ASSY(056G1133 34)	
	U158	056G 1331PH	IC LD1117S18 SOT-223	
	U157	056G 1334PH	IC LD1117S33TR SOT-223	
	U154	056G 133905	IC LD1117S-TR SOT223	
	U400	056G 562936	IC MT5362ANG/B PBGA-470	
	U152	056G 563129	IC AME8810-AEGTZ 0 6A/3 3V SOT-223	
	U351	056G 615918	IC NT5TU32M16CG-BD BGA-84	
	U352	056G 615918	IC NT5TU32M16CG-BD BGA-84	
	U606	056T 133907	IC L78L12ABUTR SOT-89	
	U159	056T 563949	IC LD39080PT-R PPAK	
	U153	056T 563951	IC LD1117ADT-TR DPAK	
	U151	056T 563958	IC LD1117ADT33TR DPAK	
	U605	056T 593 34	IC MT8292 QFN-48	
	U600	056T 616912	IC TDA8933BTW HTSSOP32	
	U500	056T 623904	IC TS5A3157DCKR SC70	
	U303	056T 665918	IC STMPS2171STR SOT23-5L	
	U401	056T1126 40	IC MT8295AE LQFP-128	
	U302	056G 643 35	IC MAX809STRG 2 93V SOT23-3	
	U103	056G 379 92	IC G5627F11U SOP-8(FD)	
	U104	056G 379 92	IC G5627F11U SOP-8(FD)	
	X400	093T 22S921 C	CRYSTAL 27MHz 20P SMD-5 0x3 2	
	X300	093T 22S922 C	CRYSTAL 54MHz 10P SMD-49	
	U001	056T 627 33 1	IR 37 9KHZ KSM-603TM2E	

Downloaded from www.Manualslib.com manuals search engine

Item	Location	PCM Codes	Description	Remark
1	FQ101	705TQ934C66	BEZEL ASS'Y MNT	
2	E07801	078G 520 2 Y	SPEAKER 6 OHM 5.5W 750/600mm 125X32mm	
3	FQ405	Q33T0331BDY 1L0100	KEY BUTTON	
4	FQ004	KEPF9QP1	KEY BOARD ASSY	
5	E750	750TVC215FA312M0PH	PANEL CLAA215FA03 000 WJ CPT	
5	E750	750TVC215FA313M0PH	PANEL CLAA215FA03 000 FZ CPT	
5	E750	750TVC215FA322M0PH	PANEL CLAA215FA03 011 WJ CPT	
5	E750	750TVC215FA323M0PH	PANEL CLAA215FA03 011 FZ CPT	
6	FQ007	IRPF9QP1	IR BOARD ASSY	
7	FQ003	PWTV9B41LQXA	POWER BOARD ASSY	
8	FQ002	756TQ9CB 5B003	SCALER ASSY(CBPF92LBQP)	
9	FQ102	705TQ934C67	REAR COVER ASS'Y MNT	
10	FQ103	705TQ934C76	STAND ASS`Y	
	E08904	089G 17356X553	AUDIO CABLE	
	E08902	089G 728CAA 2G	SIGNAL CABLE	
	FQ304	089G179J30NH15	FFC CABLE 30PIN P1.0 130MM	
	FQ301	089G404A18N IS	POWER CORD	
	FQ404	098GRABDWNTPHJ	REMOTE CONTROL PHILIPS	
	FQ205	705GQ9CS086	CUSHION ASSY	
	FQ202	Q44GC116813 1A	21 5 TV MONITOR CARTON	
	IC903	056G 139 3A	IC PC123Y22FZ0F	
	PT802	080GL24T 23 DN	X'FMR 68uH TK 2005Y 101 VOC	
	T901	080TL22T 5 L	X'FMR 530uH PT-009527-3	
	IC901	056G 379107	IC LD7575A PS SOP-8	
	IC801	056G 608 10	IC OZ9938GN-B SOIC-16	
	IC902	056G 158 12	KIA431A-AT/P TO-92	
	F901	084G 56 4 B	FUSE 4A 250V	
	U301	100TPKCC002BT1	MCU ASSY(056G113353A)	
	U701	100TPKCCA01BTE	EEPROM ASSY(056G1133 34)	
	U550	100TPKCCV01BTE	EEPROM ASSY(056G1133 34)	
	U390	100TPKMA001BT1	FLASH ASSY(056G1133949)	
	U158	056G 1331PH	IC LD1117S18 SOT-223	

Downloaded from www.Manualslib.com manuals search engine

	U157	056G 1334PH	IC LD1117S33TR SOT-223	
	U154	056G 133905	IC LD1117S-TR SOT223	
	U400	056G 562936	IC MT5362ANG/B PBGA-470	
	U152	056G 563129	IC AME8810-AEGTZ 0 6A/3 3V SOT-223	
	U351	056G 615918	IC NT5TU32M16CG-BD BGA-84	
	U352	056G 615918	IC NT5TU32M16CG-BD BGA-84	
	U159	056T 563949	IC LD39080PT-R PPAK	
	U153	056T 563951	IC LD1117ADT-TR DPAK	
	U151	056T 563958	IC LD1117ADT33TR DPAK	
	U605	056T 593 34	IC MT8292 QFN-48	
	U600	056T 616912	IC TDA8933BTW HTSSOP32	
	U500	056T 623904	IC TS5A3157DCKR SC70	
	U303	056T 665918	IC STMPS2171STR SOT23-5L	
	U401	056T1126 40	IC MT8295AE LQFP-128	
	U302	056G 643 35	IC MAX809STRG 2 93V SOT23-3	
	U103	056G 379 92	IC G5627F11U SOP-8(FD)	
	U104	056G 379 92	IC G5627F11U SOP-8(FD)	
	X400	093T 22S921 C	CRYSTAL 27MHz 20P SMD-5 0x3 2	
	X300	093T 22S922 C	CRYSTAL 54MHz 10P SMD-49	
	U001	056T 627 33 1	IR 37 9KHZ KSM-603TM2E	

Service Kit

Description	Part No.	Picture
ISP Tool	715GT080-A	

Downloaded from www.Manualslib.com manuals search engine

16. General Product Specification

TABLE OF CONTENTS

1 INTRODUCTION
1 1 PURPOSE
1 2 SCOPE
1 3 DEFINITIONS, ACRONYMS & ABBREVIATIONS
1 4 REFERENCE'S
2 GENERAL DESCRIPTION
2 1 PRODUCT PERSPECTIVE
2 2 PRODUCT RANGE
2 3 DISPLAY PANEL
3 FUNCTION REQUIREMENTS
3 1 POWER
3 1.1 POWER SUPPLY FEATURES
3 1.2 POWER CONSUMPTION
3 1.3 POWER MODE
3 1.4 MONITOR DPM / TV STANDBY
3 2 RECEPTION
3 2.1 RF SIGNAL REQUIREMENTS
3 2.2 TELETEXT
3 3 EXTERNAL INTERFACE
3 3.1 VIDEO SIGNAL REQUIREMENTS
3 3.2 AUDIO SIGNAL REQUIREMENTS
3 3.3 PC SIGNAL REQUIREMENTS
3 3.4 I / O CONNECTORS
3 3.5 MISCELLANEOUS
3 4 VISUAL PERFORMANCE
3 4.1 FRONT SCREEN PERFORMANCE
3 4.2 PICTURE QUALITY
3 5 AUDIO PERFORMANCE
3 5.1 DTV AUDIO CODEC
3 5.2 SOUND MODE
3 5.3 INCREDIBLE SURROUND EFFECTS
3 5.4 SOUND RELATED REQUIREMENTS
4 USER INTERFACE SPECIFICATION
4 1 SIDE CONTROLS
4 2 FRONT CONTROLS
4 3 OSD MENU
5 NON FUNCTIONAL REQUIREMENTS
5 1 DEFAULT AND INITIAL CONTROL VALUES
5 2 TIME OUT
5 3 LAST STATUS
5 3.1 AUDIO LAST STATUS

Downloaded from www.Manualslib.com manuals search engine

5.3.2 VIDEO LAST STATUS
5.3.3 CHANNEL TABLES
5.3.4 CUSTOMER SERVICE MENU (CSM)
6 ACCESSORIES
6.1 CABLES
6.2 REMOTE CONTROL
6.3 DFU
6.4 QUICK USER GUIDE
6.5 WARRANTY CARD
7 MECHANICAL
7.1 COSMETIC
7.2 MECHANICAL DATA FILES
7.3 LOCATION OF PHILIPS LOGO
7.4 LOCATION OF ICON
7.5 COLOR FOR RESIN / PAINT
7.6 RESINS
7.7 PAINT USED
7.8 PLASTIC MOLD TOOLING
7.9 PLASTICS FLAMMABILITY
7.10 TEXTURE / GLOSSING OF HOUSING
7.11 BASE TILT / SWIVEL RANGE
7.12 MOVEMENT OF UNIT WITH BASE
7.13 WALL MOUNT METHOD
7.14 LABEL
7.15 PRODUCT DIMENSION / WEIGHT
7.16 TRANSPORTATION
7.16.1 TRANSPORTATION PACKAGES
7.16.2 TRANSPORTATION TEST PROCEDURES
7.17 PALLET / CONTAINER LOADING
8 RELIABILITY / ENVIRONMENT
8.1 MTBF PREDICTION
8.2 DEMONSTRATION MTBF
8.3 TEMPERATURE
8.4 HUMIDITY
8.5 ALTITUDE
8.6 AIR PRESSURE
8.7 ENVIRONMENTAL TEST
9 REGULATORY COMPLIANCE
9.1 WORLDWIDE REGULATORY
9.2 EMC REQUIREMENTS
9.3 RoHS
9.4 WEEE
9.5 ONGING REGULATORY

Downloaded from www.Manualslib.com manuals search engine

1. Instruction

1.1 Purpose

The purpose of the PID is to get a common understanding between the supplier and the Philips OTS business team on the product of requirements of LCD TV-monitor. The document serves as a basis for the product design of LCD TV-monitor.

1.2 Scope

This specification describes the feature and performance of the LCD TV-monitor set, which includes PC video connector for monitor application and a RF tuner receiving PAL / SECAM off the air or from the cable and AV connectors for multiple video format inputs.

Product name	201T1	221T1
Manufacturer ID	PHL	PHL
Product ID	C040	C041

2. General Description

1.1 Product Perspective

Reception

- DVB - T H.264 (MPEG-4) and analog hybrid TV platform
- DVB – T compliance with DVB D – Book (UK), E – Book (Pan – EU), Italian DGTVi, Scandivia NorDig
- Supports the European conditional access system "Common Interface". This allows for the controlled descrambling of scrambled digital services (DTV only)
- Supports MHEG – 5 UK Profile 1.06 for UK D – Tick logo (DTV only)
- Fulfill "Boxer TV" for NorDig and DTG for Sweden and UK market (DTV only) – Applied by Philips
- SmartDTV for Italy
- PAL B/G D/K I, SECAM B/G D/K L/L' TV tuning system for EU/UK

Features:

- Wide screen of 16:9 aspect ratio, 1600 x 900 display pixels 20"W HD +LCD color TV (**for 201T1)**
- Wide screen of 16:9 aspect ratio, 1920 x 1080 display pixels 20" FHD LCD color TV (**for 221T1)**
- Universal power supply, stand-by power < 0.5 W and DC off power <0.5 W
- DPM power management for PC mode
- VESA standard wall mount

Connectivity:

- Support components video, composite video and audio input
- Full SCART input (R/G/B, CVBS, S-Video, CVBS out)
- Support HDMI Ver 1.3a with HDCP, audio included (meet EIA-861B standard)
- Support PC modes via VGA D-sub and HDMI connector
- Multi-system PAL, NTSC playback
- Match the EICTA HD interoperability requirements for "HD ready" logo
- YPbPr can support up to 1080P and HDMI can support up to 1080p (Both should also support down to and including 480i/576i)

Downloaded from www.Manualslib.com manuals search engine

Easy of use

- User-friendly OSD menu
- User-friendly remote controller
- Software upgrade should be done through OAD, / USB connector

1.2 Product Range

CTV	Destination	Mains Cord
201T1	Eastern / Western Europe, UK	Follow Philips's SKU
221T1	Eastern / Western Europe, UK	Follow Philips's SKU

1.3 Display Panel

For M200O1-L02 (for 201T1)

CMO 20" inch panel

Panel Model	M200O1-L02
Active Area	20 inch (442.8 (H) x 249.075 (V)) diagonal
Outline Dimension	462.8 mm (H) x 272 mm (V) x 10.4 mm (D)
Pixel Pitch	0.2768 (H) x 0.2768 (V)
Pixel Format	1600 x 900 (HD+), pixels RGB strip arrangement
Color Depth	6-bit +Hi-FRC, 16.7M colors
Luminance	250 cd/m^2
Backlight	2 CCFL
Response Time	5 msec (G to G average)
View Angle	170 (H) / 160 (V) (CR≥10) TN technology
Contrast Ratio	1000:1 (typ.)
Life Time	50,000 hrs

For LTM200KT03 (for 201T1)

SAMSUNG 20" inch panel

Panel Model	LTM200KT03
Active Area	20 inch (442.8 (H) x 249.075 (V)) diagonal
Outline Dimension	462.8 mm (H) x 272 mm (V) x 17.5 mm (D)
Pixel Pitch	0.2768 (H) x 0.2768 (V)
Pixel Format	1600 x 900 (HD+), pixels RGB strip arrangement
Color Depth	6-bit +Hi-FRC, 16.7M colors
Luminance	250 cd/m^2
Backlight	2 CCFL
Response Time	5 msec (G to G average)
View Angle	170 (H) / 160 (V) (CR≥10) TN technology
Contrast Ratio	1000:1 (typ.)
Life Time	50,000 hrs

Downloaded from www.Manualslib.com manuals search engine

For CLAA215FA03 (for 221T1)

CPT 21.5" inch panel

Panel Model	CLAA215FA03
Active Area	21.5 inch (476.64 (H) x 268.11 (V)) diagonal
Outline Dimension	495.6 mm (H) x 292.2 mm (V) x 12.5 mm (D)
Pixel Pitch	0.24825 (H) x 0.24825 (V)
Pixel Format	1920 x 1080 (WXGA), pixels RGB strip arrangement
Color Depth	6-bit +Hi-FRC, 16.7M colors
Luminance	250 cd/m^2
Backlight	2 CCFL
Response Time	5 msec (G to G average)
View Angle	170 (H) / 160 (V) (CR≥10) TN technology
Contrast Ratio	1000:1 (typ.)
Life Time	50,000 hrs

For LTM215HT01 (for 221T1)

SANSUNG 21.5" inch panel

Panel Model	LTM215HT01
Active Area	21.5 inch (476.64 (H) x 268.11 (V)) diagonal
Outline Dimension	495.6 mm (H) x 292.2 mm (V) x 17.5 mm (D)
Pixel Pitch	0.24825 (H) x 0.24825 (V)
Pixel Format	1920 x 1080 (WXGA), pixels RGB strip arrangement
Color Depth	6-bit +Hi-FRC, 16.7M colors
Luminance	250 cd/m^2
Backlight	2 CCFL
Response Time	5 msec (G to G average)
View Angle	160 (H) / 160 (V) (CR≥10) TN technology
Contrast Ratio	1000:1 (typ.)
Life Time	50,000 hrs

3. Function Requirements

All performance requirements are defined under "Standard Testing Conditions", unless otherwise specified

Standard Testing Conditions

- Warm up time : ≥ 30min.
- Ambient temperature : 0℃ ~ 40 ℃
- Ambient light : 400 ~ 600 lux
- Relative humidity : 25% ~ 75%
- Barometric pressure : 860 mbar ~ 1013 mbar
- Dark room conditions : < 1 lux. For optical measurements

The RF tuning system and video performance should fulfill Philips torture room test and field test requirements

Downloaded from www.Manualslib.com manuals search engine

3.1 Power

3.1.1 Power Supply Features

- AC line voltage range : 90V AC ~ 264V AC
- AC line frequency range : 50 / 60 Hz ± 3 Hz
- DC tact switch : minimal power consumption when switch off
- Inrush current : < 40A at 240V AC when cold start
- Leakage current : < 0.5 mA at 240V AC
- Power factor correction : According to EN61000-3-2

3.1.2 Power Consumption

	201T1	221T1
• Normal on	<50 Watt	: < 35W (TBD)
• Standby - (Remote Control key)	: <0.5 W, RC standby mdoe + RED LED	
• Power off – (Power key for keypad)	: <0.5 W, RC standby mode + LED OFF	

3.1.3 Power Mode

- Power off mode : The mains plug is not conected or the power supply is switched off. The system has no power available
- Standby mode : The TV signal processing hardware is switched off. The micro- controller is operating and waiting for a command.
- TV mode : The LCD display is switched on. The TV set is turned to a channel or external source. The micro-controller is processing all incoming signals and commands and also controls the TV hardware.
- PC mode : The system is display PC video input
- PC sleep mode : The system is the same as standby mode as there is no PC video when system is in PC mode
- TV wake up keys : On RC & top/side key control - "Standby" or "Program +/-" or "SOURCE" is pressed **(for 201T1)**
  On RC – "Standby" or "Program + /-"or "SOURCE" is pressed. On top / side key control – "Program + / -"or "Menu" key is toggled **(for 221T1)**

3.1.4 Monitor DPM / TV Standby

- DPM : The monitor enters DPM off (sleep) mdoe when no H & V syncs or one of H-Sync / V-sync input is absent. "No Video Input" message appears before entering DPM mode. A delay of 30 seconds before entering the power saving state is required to avoid misunderstanding of display resolution and timing mode changes.
- Recovery form DPM : Power & function recover when both H & V syncs are detectded
- Standby : The TV enters "TV standby mode" when it is turned off by RC "Standby / Power" key or SLEEP TIMER functions is activated or no TV signal input for 30 seconds.
- Recover from Standby : Power & function recovers when RC & Top key control "Standby" or "Program +/-" or "SOURCE" is pressed **(for 201T1)**
  Power & function recovers when RC "any digit key from 0~9" or "Standby" or

Downloaded from www.Manualslib.com manuals search engine

"Program +/-" or "SOURCE" is pressed. Top key control "Menu" or "Program +/-" key is toggled. **(for 221T1)**

3.2 Reception

3.2.1 RF Signal Requirements

- DTV RF input system (DTV only)
  - Frequency range: VHF: 174 to 230MHz, UHF: 470 to 862 MHz
  - Modulation: COFDM
  - Input impedance: 75Ohm
  - Constellation: QPSK, 16 –QAM, 64 – QAM, Hierarchical modulation **(for 201T1)**
    QPSK, 16 –QAM, Hierarchical modulation **(for 221T1)**
  - Tuner Bandwidth: 7 MHz and 8 MHz
  - FFT Mode: 2 K / 8 K
  - Guard Interval: 1/4, 1/8, 1/16 or 1/32
  - FEC code rate: 1/2, 2/3, 3/4, 5/6 or 7/8

- The iDTV shall be able to find all DVB-T modulated multiplexes whose center frequencies, F are located +/-500Khz on a grid (for Europe)
  - For 7 and 8 MHz bandwidth: F =7*N + 2.5 MHz, where N: 15<=N<=32
  - For 8 MHz bandwidth: F =8*M + 2 MHz, where13<=M<=28 and 59<=M<=107. And on the grid: (for Italy)

Frequency Plan	Start Frequency [kHz.]	Start	End	Bandwitdth
FRANCE_VHF	178750	1	6	8000
ITALY_VHF*	177500	1	7	7000

* Not Arithmetic

```
#define ITALY_VHF                {7,   7, {{ 1, 177500,  7000,  'D' }, \
                                  { 2, 186000,  7000,  'E' }, \
                                  { 3, 194500,  7000,  'F' }, \
                                  { 4, 203500,  7000,  'G' }, \
                                  { 5, 212500,  7000,  'H' }, \
                                  { 6, 219500,  7000,  'H1'}, \
                                  { 7, 226500,  7000,  'H2'}} }
```

And on the grid: (for Australia)
In the DVB-T profile, the iDTV supports, besides the European Grid, Australian grid. There, the center frequency F is located +/- 500 KHz on a grid.
For VHF: F = N*7 + 2.5; for 25<=N<=32
For UHF: F = N*7 + 4.5, for 72<=N<=114

- ATV RF input system: Aerial or cable via RF connector supports PAL B/G, D/K, I and SECAM B/G, D/K, L/ L'
  Channel Coverage

Band	Analog channels, Picture Carrier (MHz)	Digital Channels, Center Frequency (MHz)
Low Band	45.25 – 154.25	51.00-156.500
Mid Band	161.25 – 439.25	162.00-442.00
High Band	447.25 – 858.25	450.00-858.00

Downloaded from www.Manualslib.com manuals search engine

Intermediate Frequencies

For Europe set

System	Picture (MHz)	Chroma (MHz)	Sound 1 (MHz)	Sound 2 (MHz)	NICAM (MHz)
B, G	39.875	35.445	34.375	34.135	34.025
L	39.875	35.445	33.375	-	34.025
L'	33.625	38.055	40.125	-	39.525
D, K	39.875	35.445	33.375	-	34.025
I	39.875	35.445	33.875	-	33.323

- TV RF input level

  10mV (80dBuV) typical, terminated with input impedance of 75Ω
  - Transient response: < 250 ns
  - Sound (5.5MHz) suppression: > 55dB
  - Chroma (4.43MHz) suppression: > 25dB
  - Y/C separation: > 20dB

  Tuner sensitivity ≧ 25 dBuV, no skipping of channels & signals

- DTV input system: DVB-T (EN 300 744 V1.5.1) supports MPEG-2 ISO/IEC 13818 MP@ML transport stream up to 25Mbps (DTV Only)
- DTV Middleware: MHEG5 profile 1.06 (optional for target market) (DTV only)
- Parental Control: Respect the age stetting sent in the transmission. If the parental rating is higher than the current setting, then the channel is blocked until a pin code is entered.
- Install: How to search through the services. Order them, and update over time. See 4.4
- Zapping: Let the user to step through the available services and select the required service. Zapping also includes the actual steps for tuning to another channel. It performs activities such as blanking audio and video, setting the right frequency, retrieving the actual channel content from the PSI/SI tables (if a digital channel is selected). It also enables selection of the right virtual channel to be decoded (depending on the language setting, for example) and also unblinking of video/audio. The selector has to dynamically react to any changes in the active transport stream – such as a change in the rating of the currently running virtual channel from the transport stream or even the actual disappearance of the selected virtual channel. The underlying software therefore notifies it of any such changes. (DTV only)
- EPG - 8 days: Have an EPG covering at least 8 days of data, extracted from DVB-EIT. (DTV only)
- EPG – Now/Next: EPG should cover the Now and Next data, extracted from DVB-EIT. (DTV only)
- Over-the-Air Download: Shall be capable of automatically detecting any new relevant software release in any transmitted multiplexes through OAD. Shall be capable of processing software releases carried by transport streams complied with ISO / IEC 13818-1 in accordance with ETSI TS 101 154, D-Book for UK and DVB SSU simple profile. Any software upgrade (over the air) requires authentication to make sure that it will only load an image approved by Philips. (for example using SHA-2) (DTV only)
- DVB Subtitles: Supports to display subtitles which broadcasted via DVB or reinserted TXT. ETSI EN 300 743 V1.3.1 (2006-11) (DTV only)

Downloaded from www.Manualslib.com manuals search engine

- Auto-assign Channel Numbers (LCN) — Support Logical Channel Number (LCN) for automatic assignment of preset numbers (DTV only, country dependent), specifically including D-Book, E-Book, Nordig and DGTVi variants)
- Audio Descriptor — Supports Audio Descriptor for UK (DTV only)

3.2.2 TELETEXT

- 100 pages Teletext system with Favorite page list
- Teletext level 1.5
- FLOF
- TOP and TOP overview menu
- 16:9 format
- 3 types of Text display mode - Text Page, Hold, Mix, Reveal
- Text time
- Wide Screen Signaling Bit (WSSB)
- Supports DVB Teletext (DTV only)
- AFD support as specified in ETSI TS 101 154 V1.7.1 (2005-06), implemented in line with D-Book and E-Book (DTV only)

WSS Video Aspect Ratio	For 4:3 Set	For Wide Screen Set
(0001) full format 4:3	Customer setting	Customer setting
(1000) box 14:9 centre	Customer setting	Movie Expand 14:9
(0100) box 14:9 top	Customer setting	Movie Expand 14:9
(0111) shoot & protect 14:9 centre (full format 4:3)	Customer setting	Movie Expand 14:9
(1101) box 16:9 centre	Customer setting	Movie Expand 16:10 (9)
(0010) box 16:9 top	Customer setting	SUBTITLE ZOOM
(1110) full format 16:9	Customer setting	WIDESCREEN
(1011) box >16:9	Customer setting	Movie Expand 16:10 (9)

(AFD) Video Aspect Ratio	For 4:3 Set	For Wide Screen Set
(1001) full format 4:3	Customer setting	Customer setting
(1011) box 14:9 centre	Customer setting	Movie Expand 14:9
(0011) box 14:9 top	Customer setting	Movie Expand 14:9
(1101) shoot & protect 14:9 centre (full format 4:3)	Customer setting	Movie Expand 14:9
(1010) box 16:9 centre	Customer setting	Movie Expand 16:10 (9)
(0010) box 16:9 top	Customer setting	SUBTITLE ZOOM
(1010) full frame 16:9	Customer setting	WIDESCREEN
(0100) box >16:9	Customer setting	Movie Expand 16:10 (9)

Sequence header	Active Format Description	WSS	
source aspect ratio	value	code (bits 0-3)	description
4:3	1001	0001	full format 4:3
	1011	1000	box 14:9 centre
	0011	0100	box 14:9 top
	1010	1101	box 16:9 centre
	0010	0010	box 16:9 top
	0100	1011	box > 16:9 centre
	1101	0111	full format 4:3 (shoot and protect 14:9 centre)
16:9	1010	1110	full format 16:9 (anamorphic)

Downloaded from www.Manualslib.com manuals search engine

3.2.2.1 RC function keys

Device Address / Function Code		Function Name	Function Description
08	**SOURCE**	Standby (Power)	Switches the set to "Standby".
01	**Power**	External 1 (Source)	To activate the external 1 connector for the peripheral connected to it or to activate the peripheral connected to the selected system mode
15	**1**	TXT-submode (Teletext)	To switch to the TXT mode or a toggle function between TXT and TV mode
16	**2**	PIP On/Off (Dual Screen)	Displays within a main picture the image of a second video source in a defined format on a defined spot
17	**3**	TV-TEXT/Subtitle (Subtitle)	TV-TEXT displays the broadcasted picture and teletext page together on screen. Subtitle gives a selection of subtitle pages in Antiope or gives a selection of different languages within Satellite broadcasting
19	**4**	Movie Expand (Format)	With a TV-screen size of 16: 9 a 4:3 signal transmission will be expand to the 16: 9 format in different ways depending on the type of set. If a 'Zoom +/-' function is present the expanded or compressed picture format will be set to 'Normal'
1A	**5**	Red	In TXT: the page indicated by the red prompt will be displayed. In Menu: One of the items with the same color will be executed
1B	**6**	Green	In TXT: the page indicated by the green prompt will be displayed
			In Menu: One of the items with the same color will be executed
1D	**7**	Yellow	In TXT: the page indicated with the yellow prompt will be displayed
			In Menu: one of the items indicated with the same color will be executed
1E	**8**	Cyan	In TXT: the page indicated by the cyan prompt will be displayed
			In Menu: one of the items with the same color will be executed
1F	**9**	EPG (Guide)	EPG(Electronic Program Guide) makes it possible, interact if with the set top box, to do program selection, to make a program list, etc
58	**EPG**	Display (Info)	Displays user information on screen (video oriented set types) or local display (audio or local display oriented set types)
41	**0**	Step Up (+)	Depending on a chosen command e.g. Menu, Actuator, Movie Expand, the respective Cursor, Actuator, and Movie, will be stepped upwards
44	**PRE CH**	Step Left	Depending on the chosen command e.g. Menu, Actuator, the respective Cursor, and Actuator will be stepped leftwards
06	**HDMI**	Acknowledge (OK)	Executes a by the cursor chosen menu function

Downloaded from www.Manualslib.com manuals search engine

47	**YPbPr**	Step Right	Depending on the chosen command e g Menu, Actuator, the respective Cursor, Actuator, will be stepped rightwards
05	**VIDEO**	Step Down (-)	Depending on the chosen command e g Menu, Actuator, Movie Expand, the respective Cursor, Actuator, Movie will be stepped downwards
45	**PC**	Menu On (Menu) (Exit)	Opens the "Menu" function and displays it on the screen and/or local display
0C	▲ **Vol**	DIGITAL OPTION (Option)	By pressing this button you will be able to toggle to the digital option available at that time Depending on digital source and standard
04	**Mute**	Volume Up (+)	Increases the volume setting, device oriented Within multi-address RC-transmitters two Master volume functions have to be present too, one with destination 00 (TV) and the other with destination 16 (P-A)
18	▲ **CH**	Mute / Demute	Toggle function between an actual volume setting and a minimum (or defined) volume setting, device oriented Within multi-address RC-transmitters one Master Mute/Demute functions have to be present too, with destination 00 (TV) For audio no Master Mute/Demute function is created due to the absence of this function within the destination 16 (P-A)
10	▼ **Vol**	Next (P+)	Steps to the next e g track, music, photo, option, etc of the chosen play state or option-submode, if continuous pressed continuously
14	**ZOOM**	Volume Down (-)	Decreases the volume setting, destination oriented Within multi-address RC-transmitters two Master Volume functions have to be present too, one with destination 00 (TV) and the other with destination 16 (P-A)
1C	▼ **CH**	Previous (P-)	Steps to the previous e g track, photo, music, options, etc of a chosen play state or option-submode, if continuous pressed continuously
40	**DUAL**	Digit 0~9	Digit entry for Function 0~9
09	**AUDIO**	Stop (MHEG Cancel)	Stops all the actions needed to reproduce a picture and/or sound from a barrier, the set still remains active
03	**VIDEO**	Previous Program (P<P)	Switches the tuner to the last viewed program/channel
13	**SLEEP**		
0B	▲		
49	◄		
0D	**OK**		
4A	►		
0A	**MENU/EXIT**		
0F	▼		
02	**INFO**		
4C			
4D			

Downloaded from www.Manualslib.com manuals search engine

4E			
4F			
50	TELETEXT		
51	MIX		
52	SIZE		
4B	SUBPAGE		
54	INDEX		
55	SUBTITLE		
56	HOLD		
57	REVEAL		
5B	FAV		
5A	CH-LIST		
0E	AD		
12	RREEZE		

3.3 External Interface

3.3.1 Video Signal Requirements

- CVBS Input: 1000mVpp (including 300 mV sync level), terminated with input impedance of 75Ω
- S-Video Input: Y: 1000mVpp, C: 300mVpp, terminated with input impedance of 75Ω
- Component Video Input: Y: 1000mVpp, PbPr: ±350mVpp, terminated with input impedance of 75Ω. 480i/p, 576i/p, 720p, 1080i/p signal handling capability
- HD Ready: HD ready logo required

Display engine:

- The minimum native resolution of the display (e.g. LCD, PDP) or display engine (e.g. DLP) is 720 physical lines in wide aspect ratio.

Video Interfaces:

- The display device accepts HD input via:
  - Analog YPbPr: "HD ready" displays support analog YPbPr as a HD input format to allow full compatibility with today's HD video sources in the market. Support of the YPbPr signal should be through common industry standard connectors directly on the HD ready display or through an adaptor easily accessible to the consumer; and
- DVI or HDMI HD capable inputs accept the following HD video formats:
  - 1280x720 @ 50 and 60Hz progressive scan ("720p")
  - 1920x1080 @ 50 and 60Hz interlaced ("1080i")
- The DVI or HDMI input supports copy protection (HDCP).

Downloaded from www.Manualslib.com manuals search engine

- SCART

Full SCART, including CVBS in/out, RGB/Sync, audio L/R in/out. Pin 8, the function-switching pin, carries a signal from the source that indicates the type of video present, 0V means no signal, or internal bypass +6V means a widescreen (16:9) signal +12V means a normal (4:3) signal.

Define SCART behavior:

Connect the external equipment SCART out jack to SCART in jack by using a SCART cable.

Provide SCART first function.

- In **TV** input source, connect the SCART cable and signal, will auto change to SCART input.
- If connect another SCART cable and have signal, will auto change to last SCART input?
- If SCART cable is connect and have signal, power off and power on, the TV set will auto change to SCART input when the previous input source is TV.
- SCART1 & SCART2 out detail behavior please see below table:

TV Source	Screen Display Source	SCART Out	AV Out
ATV	ATV	ATV	ATV
	CVBS	CVBS	CVBS
	HDMI / VGA / Component	-- / -- / Component	-- / -- / Component
DTV	DTV	DTV	DTV
	CVBS	CVBS	CVBS
	HDMI / VGA / Component	-- / -- / Component	-- / -- / Component

SCART1 input will auto detect CVBS / S-Video / RGB signal.

- If previous input source is TV, plug in SCART cable and have signal will change to SCART input (teletext will be turn off simultaneously), plug out SCART cable will return to TV input source.
- If User connect CANAL+ device with TV set by SCART source (the one bundled with tuner), switch to an analog channel that is CANAL+ channel. The channel number will be shown in the OSD banner.
- If CANAL+ device connect to SCART and the device should power on, when user switch to an analog channel, If the channel is NOT a CANAL+ channel, the source is still from "tuner", so the output is clear.
- If CANAL+ device does NOT connect to SCART, or not power ON, when user switch to an analog channel, if the channel is a CANAL+ channel, the video will be scrambled.

- HDMI Input

Compliance with HDMI Specification 1.3a. 480i/p, 576i/p, 720p, 1080i/p signal handling capability.

TMDS channel:

- Carries audio, video and auxiliary data.
- Signaling method: According to HDMI Ver.1.3a specification. (Type A HDMI).
- Video pixel rate: 25 MHz to 165 MHz (Type A)
- Pixel encodings: RGB 4:4:4, YCbCr 4:2:2, YCbCr 4:4:4.
- Audio sample rates: 32 KHz, 44.1 kHz, 48 KHz, Audio channels: up to 2.

DDC channel:

- Allows source to interrogate capabilities of sink.
- I^2C signaling with 100 kHz clock.
- E-EDID data structure according to EIA/CEA-861B and VESA Enhanced EDID.

Downloaded from www.Manualslib.com manuals search engine

Content protection

- According to High-Definition Content Protection (HDCP) Specification 1.10

- Common Interface: Complies with version 1. EN50221 ETSI TS 101 699, V1.1.1 (1991-11) and [R206-001F] (DTV only)
- No Signal Input: While no signal at external inputs, screen goes blue before entering standby mode

3.3.1.1 HDMI CEC

Compliant with HDMI Ver 1.3a CEC

- One-Touch-Play: Device can switch on the television (when in standby) and switch to the relevant HDMI source. Allows a device to be played and become the active source with a single button press
- Routing Control: This feature is used to control the routing of the HDMI network, by controlling CEC Switches. In general whenever a device starts being streamed to the TV
- System Standby: Enables the user to switch all devices to standby with one button press
- System Information: Allow devices to automatically use the same OSD and Menu language settings as the TV and also for a TV to discover the current language when it is being installed
- Give Device Power Status: The message is used to determine the current power status of a target device. The target device responds with a message containing the Power Status operand

3.3.2 Audio Signal Requirements

- Audio input -: Sensitivity 500mVrms, the amplifier outputs full power when the input level reaches 500mVrms, terminated with input impedance of >10kΩ
- Headphone output: N.A.
- Amplifier output: 2 x 3Wrms, with T.H.D. < 10%
- SPDIF output: Carrying stereo or multi-channel output (DTV tuner digital audio or HDMI digital audio loop through)

3.3.3 PC Signal Requirements

- Pixel rate capability: 160 MHz for ATV, 160 MHz for DTV
- Sync input: TTL level, separate H / V sync only, "+" or "-" polarity, terminated with ≥ 2.2kΩ impedance
- Horizontal frequency: 30 ~ 83 KHz
- Vertical frequency: 56 ~ 76 Hz
- PC analog RGB level: 0 ~ 700 mV linear, positive polarity, terminated with 75Ω impedance
- I^2C DDC signal: DDC serial Data & Clock, DDC components are connected to both monitor Vcc and DDC +5V (from PC via video cable), that the PC can read the DDC data also when the monitor is powered off. To prevent current feedback into PC, blocking diodes are required at monitor side.
- Preset video timings: Follow VESA timing mode up to panel native resolution. Preset video timings,

Downloaded from www.Manualslib.com manuals search engine

size and centering have been pre-aligned in factory according to specifications

- Audio input

Sensitivity 500mVrms, the amplifier outputs full power when the input level reaches 500mVrms, terminated with impedance >10kΩ

- No signal input

While no signal at external inputs or signal cable not connected, screen goes black with message "No Video Input" for 30 seconds before going to DPM mode

- PC timing

For 201T1

Support Timing	Factory Preset Timing	Resolution			Pixel Rate (MHz)	Horizontal (KHz)	Vertical (Hz)
*		DOS		640x350/70	25.18	31.47	70.09
*		DOS		720x400/70	28.32	31.47	70.09
*	*	DMT	4:3	640x480/60	25.18	31.47	59.94
*		MAC		640x480/67	30.24	35.00	66.67
*		DMT	4:3	640x480/72	31.50	37.86	72.81
*	*	DMT	4:3	640x480/75	31.50	37.50	75.00
*		DMT	4:3	800x600/56	36.00	35.16	56.25
*	*	DMT	4:3	800x600/60	40.00	37.88	60.32
*		DMT	4:3	800x600/72	50.00	48.08	72.19
*	*	DMT	4:3	800x600/75	49.50	46.88	75.00
*		MAC		832x624/75	57.28	47.73	74.55
*	*	DMT	4:3	1024x768/60	65.00	48.36	60.00
*		DMT	4:3	1024x768/70	75.00	56.48	70.07
*	*	DMT	4:3	1024x768/75	78.75	60.02	75.03
*		DMT		1152x864/75	108.00	67.50	75.00
*		MAC		1152x870/75	100.00	68.68	75.06
*		SUN		1152x900/66	92.94	61.80	65.95
*		SUN		1152x900/76	105.56	71.71	76.05
*		CVT	16:9	1280x720/60	74.50	44.77	59.86
*		CVT	16:9	1280x720/75	95.75	56.46	74.78
*		CVT	15:9	1280x768/60	79.50	47.78	59.87
*		CVT	15:9	1280x768/75	102.25	60.29	74.89
*		CVT		1280x800/60	83.50	49.70	59.81
*		CVT		1280x800/75	106.50	62.80	74.93
*		DMT	4:3	1280x960/60	108.00	60.00	60.00
*		DMT	5:4	1280x1024/60	108.00	63.89	60.02
*		SUN	5:4	1280x1024/66	117.00	71.70	67.00
*		DMT	5:4	1280x1024/75	135.00	79.98	75.03
*		SUN	5:4	1280x1024/76	138.01	81.10	76.00
*		DMT	16:9	1360x768/60	85.50	47.71	60.02
*		CVT	16:9	1360x768/75	109.00	60.29	74.89
*	*	VDMTREV		1600x900/60	108.00	60.00	60.00
32	7						

Downloaded from www.Manualslib.com manuals search engine

For 221T1

Support Timing	Factory Preset Timing	Resolution			Pixel Rate (MHz)	Horizontal (KHz)	Vertical (Hz)
*		DOS		640x350/70	25.18	31.47	70.09
*		DOS		720x400/70	28.32	31.47	70.09
*	*	DMT	4:3	640x480/60	25.18	31.47	59.94
*		MAC		640x480/67	30.24	35.00	66.67
*		DMT	4:3	640x480/72	31.50	37.86	72.81
*	*	DMT	4:3	640x480/75	31.50	37.50	75.00
*		DMT	4:3	800x600/56	36.00	35.16	56.25
*	*	DMT	4:3	800x600/60	40.00	37.88	60.32
*		DMT	4:3	800x600/72	50.00	48.08	72.19
*	*	DMT	4:3	800x600/75	49.50	46.88	75.00
*		MAC		832x624/75	57.28	47.73	74.55
*	*	DMT	4:3	1024x768/60	65.00	48.36	60.00
*		DMT	4:3	1024x768/70	75.00	56.48	70.07
*	*	DMT	4:3	1024x768/75	78.75	60.02	75.03
*		DMT		1152x864/75	108.00	67.50	75.00
*		MAC		1152x870/75	100.00	68.68	75.06
*		SUN		1152x900/66	92.94	61.80	65.95
*		SUN		1152x900/76	105.56	71.71	76.05
*		CVT	16:9	1280x720/60	74.50	44.77	59.86
*		CVT	16:9	1280x720/75	95.75	56.46	74.78
*		CVT	15:9	1280x768/60	79.50	47.78	59.87
*		CVT	15:9	1280x768/75	102.25	60.29	74.89
*		CVT		1280x800/60	83.50	49.70	59.81
*		CVT		1280x800/75	106.50	62.80	74.93
*		DMT	4:3	1280x960/60	108.00	60.00	60.00
*	*	DMT	5:4	1280x1024/60	108.00	63.89	60.02
*		SUN	5:4	1280x1024/66	117.00	71.70	67.00
*		DMT	5:4	1280x1024/75	135.00	79.98	75.03
*		SUN	5:4	1280x1024/76	138.01	81.10	76.00
*		DMT	16:9	1360x768/60	85.50	47.71	60.02
*		CVT	16:9	1360x768/75	109.00	60.29	74.89
*		CVT		1440x900/60_RB	88.75	55.47	59.90
*	*	CVT		1440x900/60	106.50	55.94	59.89
*		CVT		1440x900/75	136.75	70.64	74.98
*		DMT	4:3	1600x1200/60	162.00	75.00	60.00
*		CVT	16:10	1680x1050/60_RB	119.00	64.67	59.88
*	*	CVT	16:10	1680x1050/60	146.25	65.29	59.95
*		CVT	16:9	1920x1080/60_RB	138.50	66.59	59.93
*		CVT	16:10	1920x1200/60_RB	154.00	74.04	59.95
*	*	CVT	16:9	1920x1080/60_RB	148.50	67.50	60.00
40	10						

Downloaded from www.Manualslib.com manuals search engine

Extra (Video) Timing Table List:

Support Timing	Preset Timing	Resolution		Pixel Rate (MHz)	Horizontal (KHz)	Vertical (Hz)
*		60Hz	480i			
*			480p			
*			720p			
*			1080i			
*			1080p			
*		50Hz	576i			
*			576p			
*			720p			
*			1080i			
*			1080p			
10	0					

PC Ambiguous specification

For 201T1 1600x900 panel:

640×350 @70Hz DOS	Ambiguous group 0 (Default 720x400 @ 70Hz)
720×400 @70Hz DOS	
1024×768 @60Hz	Ambiguous group 1 (Default 1024x768@60Hz)
1280×768 @60Hz	
1360×768 @60Hz	
1024×768 @75Hz	Ambiguous group 2 (Default 1024x768@75Hz)
1280×768 @75Hz	
1360×768 @75Hz	

For 221T1 1920x1080 panel:

640×350 @70Hz DOS	Ambiguous group 0 (Default 720x400 @ 70Hz)
720×400 @70Hz DOS	
1024×768 @60Hz	Ambiguous group 1 (Default 1024x768@60Hz)
1280×768 @60Hz	
1360×768 @60Hz	
1024×768 @75Hz	Ambiguous group 2 (Default 1024x768@75Hz)
1280×768 @75Hz	
1360×768 @75Hz	

Note:

1 If current timing at the ambiguous group , user need to select the prefer timing at Menu -> Picture -> Advanced Video -> Resolution

2 At the first time user change to one of the ambiguous timing, TV will perform the auto-config. After that, only if user select their prefer timing, TV will perform the auto-config. Otherwise, TV will use the previous user selected timing when user change timing and will not perform the auto-config

Downloaded from www.Manualslib.com manuals search engine

3.3.3.1 DDC Channel

- E-EDID data structure according to VESA Enhanced EDID 1 3 (and EIA/CEA-861B for HDMI)
- Allows source to interrogate capabilities of the Monitor & TV
- Separate EDID for VGA input and HDMI input

Data for EDID & inf file

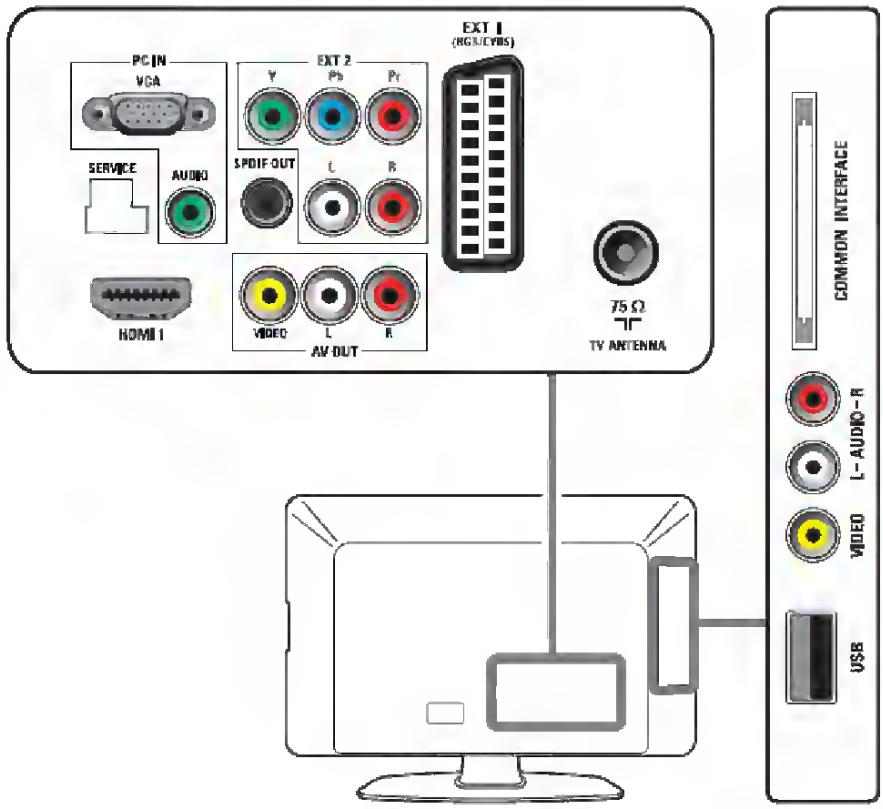
1	User visible strings on inf file	Philips 201T (20 inch WIDE LCD MONITOR 201T1)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12) C0
		LSB (byte 11) 40
4	maximum resolution	1600 x 900
5	Horizontal Frequency Range	30~83 KHz
6	Vertical Frequency Range	56~76Hz
7	Monitor Name (13 characters max)	Philips 201T

1	User visible strings on inf file	Philips 221T (22inch WIDE LCD MONITOR 221T1)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12) C0
		LSB (byte 11) 41
4	maximum resolution	1920 x 1080
5	Horizontal Frequency Range	30~83 KHz
6	Vertical Frequency Range	56~76Hz
7	Monitor Name (13 characters max)	Philips 221T

Downloaded from www.Manualslib.com manuals search engine

3.3.4 I / O Connectors

I / O at rear



3.3.4.1 Rear connectors:

- Component Video In & Audio L/R In (YPbPr)
- SCART1 input / output (CVBS in/out, RGB in, S-video in, Audio L/R in/out)
- SPDIF (digital audio) output
- Coaxial aerial I/P (TV input)– Europe type (75 Ω)
- PC VGA In (D-SUB)
- PC Audio In
- HDMI1 in (TV digital interface support HDCP) with digital audio or with PC audio jack
- RS232 connector (for service)
- Video OUT TV output with audio line out

3.3.4.2 Side connectors on scaler board:

- CVBS in (Cinch)
- Audio L/R in (Cinch)
- CI slot input PCMCIA card (5V)
- USB 4-pin Type-A connector for SW update (only uses flash drive)

Downloaded from www.Manualslib.com manuals search engine

3.3.5 Miscellaneous

VGA Pin assignment

PIN No.	SIGNAL
1	Red
2	Green
3	Blue
4	NC
5	GND
6	Red GND
7	Green GND
8	Blue GND
9	+5V (Supply from PC)
10	Sync GND
11	NC
12	Bi-directional data(SDA)
13	H-sync
14	V-sync
15	Data clock(SCL)

HDMI Pin assignment

PIN No.	SIGNAL
1	TMDS Data2+
2	TMDS Data2 shield
3	TDMS Data2-
4	TMDS Data1+
5	TMDS Data1 shield
6	TMDS Data1-
7	TMDS Data0+
8	TMDS Data0 shield
9	TMDS Data0-
10	TMDS Clock+
11	TMDS Clock Shield
12	TMDS Clock-
13	CEC
14	Reserved (N.C. on device)
15	SCL
16	SDA
17	DDC/CEC Ground
18	+5V Power
19	Hot Plug Detect

Downloaded from www.Manualslib.com manuals search engine

Full SCART Pin assignment

PIN No.	SIGNAL
1	Audio output right
2	Audio input right
3	Audio output left
4	GND(audio)
5	GND(blue)
6	Audio input left
7	Blue input
8	Switch signal input (Fast Blanking)
9	GND(green)
10	N C
11	Green input
12	N C
13	GND(red)
14	GND(blanking)
15	Red input
16	RGB switching control
17	GND(video input & output)
18	GND(RGB switching control)
19	Video output(composite)
20	Video input(composite)
21	Common ground

3.4 Visual performance

3.4.1 Front of screen performance

- Peak brightness — Per panel spec, brightness & contrast controls are at 100%
- Luminance uniformity — Per panel spec
- Chromatic uniformity — Per panel spec
- Luminance variation — Per panel spec
- TV video color — Smart picture at "Standard" with 75% video level full white pattern, The color temperature at the screen center should be

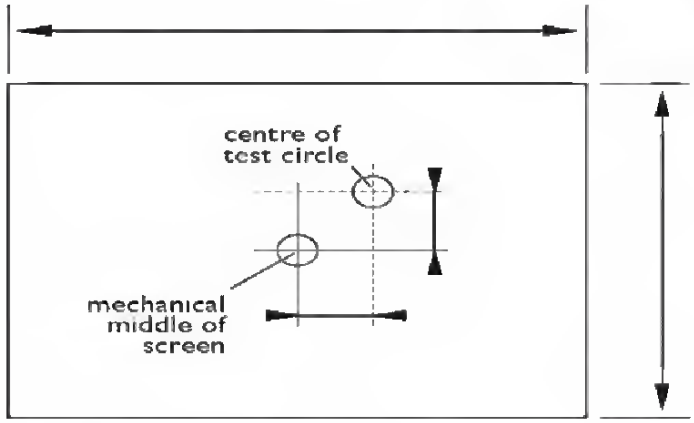
	Normal	*Warm*	*Cool*	
CCT	8000° K	6500° K	9300 ° K (only for 201T)	11000° K (only for 221T)
X	0 296 ± 02	0 314 ± 02	0 283 ± 02	0 278 ± 02
Y	0 299 ± 02	0 319 ± 02	0 297 ± 02	0 278 ± 02

Note: (for 201T1)

1. Use Minolta CA-210 for color coordinates and luminance check
2. Luminance > 200 cd/m^2 in the center of the screen when Brightness control at 100, contrast control at 100 and "Warm" color temperature in PC source

Downloaded from www.Manualslib.com manuals search engine

- Picture centering — H & V ≤ 0 5 %. (for TV, 480i/p, 576i/p, 720p, 1080i/p)



- Over scan — 3% vertically and horizontally for TV & AV
  0% (fit to screen) for PC mode vertically and horizontally
- Residual image — Recover < 2 min. after burn in the checkerboard image for 2 hours.
- Contouring — Minimum contouring visible
- Dimming backlight — Range from 11 to 100% for DCR setting, DCR =15000 (min), DCR =30000 1 (max) in Dimming current <2mA **(for 201T1)**
  range from 11 to 100% for DCR setting, DCR=12500(min.) , DCR=25000 1(max) in Dimming current <2mA **(for 221T1)**

3.4.2 Picture Quality

Picture control handles the initialization of the video parameters and the recall of the video personal preferences.
Some video parameters can also be changed via the picture sub menu.
All video inputs must have independent picture settings for fine tuning their PQ.
PQ should be fine even at 50dB RF signal.
Per video input source has itself own pre-setting values included Smart Picture, Smart Sound and Picture Format.
Pre-setting values must follow the input source change.

- De-interlace — 3D for ATV, 3D MA (monitor adaptive) for DTV
- Y/C separation — 3D comb filter for ATV, 3D comb filter for DTV
- Film mode supports — Automatic 3 2/2 2 detect and 3 2/2 2 pull down
- Skin tone correction — Yes
- Blue stretch — Yes
- Green enhance — Yes
- Black extension — Yes

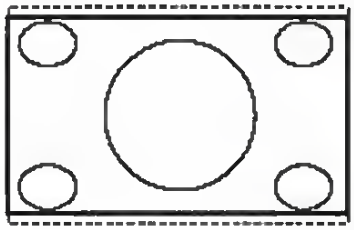
3.4.2.1 Smart setting in TV / AV modes

There are 5 sets of pre-setting Personal, Vivid, Standard, Movie, and Power saver.
Personal settings can be altered by users

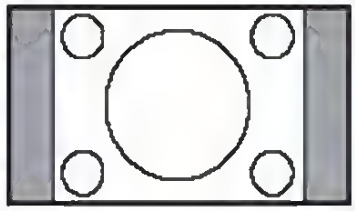
Downloaded from www.Manualslib.com manuals search engine

3.4.2.2 Picture Format

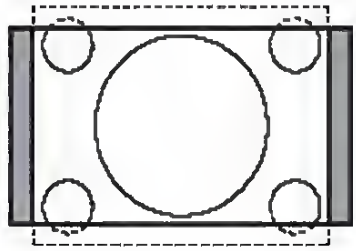
There are 7 picture formats: Normal 4:3, Zoom 1 (Movie Expand 14:9), Zoom 2 (Movie Expand 16:9), Super Zoom, Subtitle Zoom and Wide, Auto.



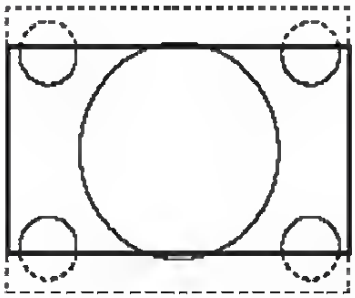
Super Zoom



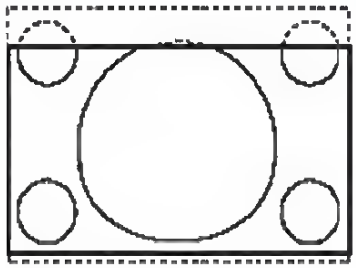
Normal (4:3)



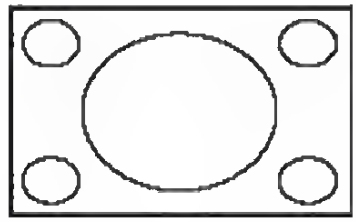
Zoom1 (Movie Expand 14:9)



Zoom2 (Movie Expand 16:9)



Subtitle Zoom



Wide

3.5 Audio Performance

Audio should be audible even no video signal is presented for all sources except PC
For the sake of stereo, proper segment of R /L speakers is needed to make sure correct R / L channel separation.
Audio control handles the initialization of the audio parameters and the recall of the audio last status. Some audio parameters can be also changed via the sound submenu.
Treble, bass are used for tone control

3.5.1 DTV Audio Codec

3.5.1.1 Required Decoders (Reference ETSI TS 101 154 V1.7.1 (2005-06). Section 6.1)

Support ISO / IEC 11172-3

Layer I and Layer II

Single channel

Joint stereo

Stereo

Support ISO / IEC 13818-3

Multi-channel audio decode the part

ISO / IEC 11172-3

Layer I and Layer II

Stereo

Downloaded from www.Manualslib.com manuals search engine

3.5.2 Sound Mode

Sound mode selections

Press DUAL I / II key to set up bilingual program / MTS system. The function is to provide multi-channel TV sound MTS can receive dual, stereo, SAP (Secondary Audio Program), or Mono sound. SAP feature permits the TV station to broadcast other information, such as audio in another language. With dual sound, you can enjoy the main sound (normal program soundtrack) and the second language at the same time.

✧ Choose the available sound mode for channels that is preset by TV broadcasting station.

Source	Detected Sound System	Current/Display Sound Mode	New/Next Sound Mode
Front-end	2CS Mono	Mono	Mono
	2CS Stereo	Mono (forced)	Stereo
		Stereo	Mono (forced)
	2CS Dual	Dual I	Dual II
		Dual II	Dual I
	NICAM Mono	NICAM Mono	FM/AM Mono
		FM/AM Mono	NICAM Mono
	NICAM Stereo	NICAM Stereo	FM/AM Mono (forced)
		FM/AM Mono (forced)	NICAM Stereo
	NICAM Dual	NICAM Dual I	NICAM Dual II
		NICAM Dual II	FM/AM Mono (forced)
		FM/AM Mono(forced) (option)	NICAM Dual I

The icon text "Mono" should show in red on screen when with mono (forced) is selected.

3.5.3 Sound Related Requirements

- Volume control — Should be gradual change of sound level from zero to maximum output
- Soft mute — A short and gradual increase of the sound to prevent the pop sound during AC plug in/out, standby on/off, channel change, mute on/off
- Lip Sync — To synchronise sound with video due to delay in video decoding
- AVL — To stabilize the TV audio input level in the case of over/under-modulated signal from non-standard broadcast transmission

4 User Interface Specification

TV controls can be reached via top control keypads or remote control

4.1 Side Controls

Downloaded from www.Manualslib.com manuals search engine

Key	TV/video mode
Source	Select Input Source
Menu	Enter /Exit OSD menu
"+" (Volume)	Menu Navigate Right/Increase/Volume up
"-" (Volume)	Menu Navigate Left/Decrease/Volume down
"+" (Channel)	Menu Navigate Up/Channel up
"-" (Channel)	Menu Navigate Down/Channel Down
Power	Power ON /OFF

- Access main menu by pressing "MENU" key
- Access input source by pressing "INPUT" key
- Navigate to and select function via Program "+ / -" keys, and Volume "+ / -" keys. Then adjust using up/down functionality
- Any local keyboard press will wake-up the TV set from 'Standby' mode (ABO – any button ON)
- Power switch to switch off the set to minimal power consumption

4.2 Front Controls

LED Indicator 4 State

Status	LED behavior
Normal on	Green
DC Switch off	Red
RC Switch off / Standby	Red
RC receiving	Blink Green

RC sensor Receiver for TV control

Operation Angle	RC operational distance
0° (for H & V)	≥ 8m
30° (for H & V)	≥ 6m
45° (for H only)	≥ 4m

4.3 OSD Menu

- 25 languages: Bulgarian, Croatian, Czech, Danish, Dutch, English, Finnish, French, Gaelic ,German, Greek, Hungarian, Italian, Norwegian, Polish, Portuguese, Rumanian, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Turkish, Ukrainian

Downloaded from www.Manualslib.com manuals search engine

- OSD tree As defined

Source: TV / YPbPr / CVBS / SACART / PC / HDMI					
10 Items (Default at vivid mode)	TV/YPbPr / CVBS / SACART / HDMI				
Smart Picture (Video Timing)	**Personal**	**Standard**	**Vivid**	**Movie**	**Eco**
Brightness	45	45	45	45	45
Contrast	55	50	55	50	50
Color	70	50	70	60	50
Tint	0	0	0	0	0
Sharpness	3	2	3	2	2
Color Temperature	Cool	Cool	Cool	Cool	Cool
Advanced Control					
Noise Reduction (Low / Medium / High)	High	High	High	High	High
Flash Tone	On	Off	On	On	Off
Backlight	100	100	100	85	60
Smart Contrast	Off	Off	Off	Off	Off
			Default		
6 Items (Default at Personal mode)	PC				
PC Timing (VGA & HDMI)	**Personal**	**Standard**	**Vivid**	**Movie**	**Eco**
Brightness (Backlight)	100				
Contrast	50				
Color Temperature	Warm				
Advanced Video					
Smart Contrast	Off				
Resolution					
	Default				
11 Items (Default at Personal mode)	TV / YPbPr / CVBS / SACART / PC / HDMI				
Sound Mode (Video Timing & PC Timing)	**Personal**	**Music**	**Speech**		
Equalizer 120Hz	0	0	-6		
Equalizer 500Hz	0	-3	-4		
Equalizer 1.5KHz	0	-6	6		
Equalizer 5KHz	0	-4	6		
Equalizer 10KHz	0	6	-6		

Downloaded from www.Manualslib.com manuals search engine

Balance	0	0	0		
Virtual Surround	Off	Off	Off		
TV Speaker	On	On	On		
Digital Audio out	PCM	PCM	PCM		
SPDIF Delay	0	0	0		
AVL	Off	Off	Off		
		Default			

5 Non Function Requirements

5.1 Default and Initial Control Values

- Initial value Settings when the set turns on from standby
- Default value Out of box settings
- Factory reset to default Settings when "Factory Reset" in menu is selected

Control		Initial Value	Default Value	Factory Reset to Default
Smart settings		Last status	Home Standard	Yes (Personal settings back to default too)
Audio	Volume	Last status	20	Yes
	AVL	Last status	Off	Yes
	Incredible Surround	Last status	Off	Yes
	Dual I/II (EU)	Last status per channel	Stereo	
	User mute	Last status	Off	Yes
Video	PC Brightness	Last status	100	Yes
	PC Contrast	Last status	50	Yes
	PC Color Temp	Last status	Cool	Yes
	PC picture format	Last status	Full Screen	Yes
	PC Picture Manual adj Phase Clock Horizontal Vertical	Last status	TBD	Yes
Source selection	Selected source	Last status	TV	
Program	Program	Last status	Lowest program	
Lock	Lock	Last status	Off	

Downloaded from www.Manualslib.com manuals search engine

5.2 Time Out

Summary of Time-out values

Description	Value
Menu	20s
Install menu and its subsequent submenus	No Timeout
Menu to restore last viewed item highlighted	20s
All OSD	5s
AV source display (without AV source input)	5s
Digit entry for change channel	1.5s for ATV, 2s for DTV
Digit entry (General)	5s
No sync display in PC mode	30s

5.3 Last Status

A variable can be classified as "last status" variable. This means if the variable is changed it may take up to 3 seconds before the variable is stored in NVM. This automatic storage mechanism is not operational when the TV set is in Factory mode.

5.3.1 Audio Last Status

Region	Audio Last Status
EU	Volume, Balance, Equalizer, Virtual Surround, AVL, Mute, Smart Sound.

5.3.2 Video Last Status

Region	Video Last Status
ALL	Last tuned Channel, Alternate Channel, Brightness, Color, Contrast, Sharpness, Tint, Color Temperature, NR, and Smart Picture.

5.3.3 Channel Tables

See PATS document

5.3.4 Customer Service Menu (CSM)

Based on generic service requirements for OEM (D04.1) + study of data-sheets

Hot Key is defined: (MENU+062596)

Customer service menu 1
1. Set Type → (e.g. 221T1SB/00) to be retrieved out of production-data
2. Production code → 14 digit production-code to be retrieved per set to be written in NVM /EEPROM
3. Key(HDCP) – HDMI → information whether HDCP - key is valid
4. NVM-naming: panel type

Downloaded from www.Manualslib.com manuals search engine

6 Accessories

6.1 Cables

• Power cord	EU /UK, length 1.8m + / - 50mm
• SCART cable (option)	N.A
• DVI cable	N.A
• VGA interface cable (option)	Yes, Length 1.8 m + / - 50mm
• RCA R / L audio cable (option)	N.A
• S-video cable (option)	N.A
• AV cable (option)	N.A
• Mini jack stereo cable (option)	N.A
• YPbPr cable (option)	N.A

6.2 Remote Control

Batteries included

6.3 DFU

Paper DFU / Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Norwegian, Polish, Portuguese, Russian, Slovak, Spanish, Swedish, Turkish

6.4 Quick User Guide

Paper QUG Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Norwegian, Polish, Portuguese, Russian, Slovak, Spanish, Swedish, Turkish

6.5 Warranty card

Philips warranty card

7 Mechanical

7.1 Cosmetic

Philips ID

7.2 Mechanical Data Files

ProE files required, with architecture in part and assembly from vendor

7.3 Location of Philips Logo

Per Philips make-up sheet

7.4 Location of Icons

Per Philips make-up sheet

7.5 Color for Resin / Paint

Per Philips make-up sheet

7.6 GAP between Panel and Front Bezel

< 1.2 (typ) mm

Downloaded from www.Manualslib.com manuals search engine

7.7 Slant on Front Bezel

≦ 4 0 mm

7.8 First Enclosure Request

Shielding cover should fulfill international standard

7.9 Resins

- RoHS requirements
- WEEE requirements
- Resin type / selection refer to " Plastic-Philips Pool monitor"

7.10 Paint Used

- RoHS requirements
- WEEE requirements
- If new painting type need to implement, refer to UN-D 1235

7.11 Plastic Mold Tooling

- Tooling to be designed to minimize cosmetic defects induced by molding process (sink, blush, weld lines, gate marks, ejector marks, etc). Reference to "TYV 61-90007".
- Painting to cover up cosmetic defects due to molding is strongly discouraged
- China RoHS mark requested
- Design of a separated room on front cabinet by using wall, rib, sponge... etc. for ensuing both speaker enclosure (RH/LH) is segregated

7.12 Plastics Flammability

- All Plastics to be Flame Retardant UL 94- HB or Better
- All major plastic parts (bezel, back cover, base) is better to be molded from same resin

7.13 Texture/Glossing of Housing

- The texture area and texture no should follow Philips make-up sheet
- The exterior surfaces shall have a uniform texture
- Philips must approve the mold texturing
- Detail document for texture refer to UAN-D 249 and UN-D 600
- Glossy surface >= 80 gloss units

7.14 Base Tilt / Swivel Range

• Tilt	-5 ° +2/-0 ° (forward) +20 ° +0°/-2°(backward)
• Swivel Range	Nil
• Base Range	Should be directly disaasembled from main body, so as for easy install the set to wall mount
• Tip over	10° minimum in worst case, base dimension designed so that ID and tip over requirements can be met

7.15 Movement of Unit with Base

- Base must have non-marring, non-staining feet
- Unit must tilt up and down with no "Stick / Slip"
- Base must provide sufficient friction to hold unit in desired position after adjusting tilt

Downloaded from www.Manualslib.com manuals search engine

7.16 Kensington Lock

- Must meet Kensington_slot spec "TYE-M0004"
- MMD request metal plate in Kinsignton hole

7.17 Wall Mount Method

- VESA standard 100mm x 100mm

7.18 Label

- Regulatory label / Carton label should follow Philips requirement
- China RoHS label
- Detail document refer to Philips Engineering Reference Book

7.19 Product Dimension / Weight

Refer to final approved SHT 191 / SHT 560

- Unit dimension (with stand) -
- Packed unit dimension (carton) -
- Net weight -
- Gross weight -

7.20 Transportation

Transportation standards refer to UAN-D 1534 / 00 / 01 / 02

7.20.1 Transportation packages

- Packaging and wrapping shall be sufficient to protect the product against damage or loss during shipment from the supplier to the destination specified in the purchase order. All packaging materials are subject to test and evaluation per UAN-D 1534/00/01, UAN-D636 and UN-D 1400.
- General pallet requirement refer to wood packaging reqs SBMT-ISBM15-16-03-06.pdf.
- The cushion material shall be constructed using EPS material.
- The doggy hole is requested.

7.20.2 Transportation test

- The overall testes refer to UAN-D 1534/00/01/02.
- Vibration, drop test should be performed at ambient temperature (20°C to 23oC) and relative humidity (40% to 65%)

7.20.3 Transportation test procedures

- The overall testes refer to UAN-D 1534/00/01/02.
- Package test
    1. Random Vibration test
    2. Drop test
    3. Cold Drop test (for design reference)
- Un-package test
    1. Half sine shock test (non operation)

Downloaded from www.Manualslib.com manuals search engine

7.21 Pallet / Container Loading

Refer to Philips approved SHT 191 / SHT 560

Transportation standards refer to TYE- M0002, UAN- D1534 and UAW-0309.

Request by transportation items

- Air shipment -
- Sea container 20'(pallet/slip sheet) -
- Sea container 40'(pallet/slip sheet) -
- Sea container 40' High Cube (pallet/slip sheet) -
- Land 45' Truck and Trailer (800 x 1200 mm pallet) for EU
- Land 45' Truck and Trailer (800 x 1200 mm pallet) for UK
- Truck shipment

Stacking request in different transportation for all regions except EU / UK (SHT 560)

- Air shipment
- 20'/40'/40'HQ container loading
- Truck shipment

Stacking request in different transportation for EU / UK (SHT 560)

- Land 45' Truck and Trailer (800 x 1200 mm pallet) for EU
- Land 45' Truck and Trailer (800 x 1200 mm pallet) for UK

8 Reliability / Environment

8.1 MTBF prediction

>100k hours (excluding Panel)

8.2 Demonstration MTBF

>75k hours with 90% confidence level at CR (excluding Panel)

8.3 Temperature

- Operating (guaranteed performance according to spec requirements) 0 to 40 degree
- Storage - -20 to 60 ºC
- Shipping - -40 to 65 ºC

8.4 Humidity

- Operating (non-condensing) - 20 to 70%
- Storage (non-condensing) - 5 to 95%
- Shipping (non-condensing) - 5 to 95%

8.5 Altitude

- Operating - 0 to 2000m
- Storage - 0 to 9000m
- Shipping - 0 to 9000m

8.6 Air pressure

Downloaded from www.Manualslib.com manuals search engine

- Operating - 795 to 1013 mbar
- Storage - 300 to 1013 mbar
- Shipping - 300 to 1013 mbar

8.7 Environmental test

- Cold test (-25 degree,96 hours)
- Damp heat steady state (40 degree, 95% RH, 96 hours)
- Dry heat test (70 degree, 96 hours)

Downloaded from www.Manualslib.com manuals search engine

9 Regulatory Compliance

9.1 Worldwide Regulatory

Per requirements

COUNTRY (NSO)	DOMAIN	SAFETY / EMC / ERGONOMICS / STANDARDS	DOCUMENTS	REFERENCE LOGO	APPLICANT	Mandatory	Leadtime (D=sample ready)
INTERNATIONAL	Sa	IEC60065/A1: national differences of all countries	CB Report and CB certificate		Supplier apply but Philips is the holder	Yes	D+6 weeks
EUROPE	Sa	European Low Voltage Directives 73/23/EEC and 93/68/EEC. 2006/95/EC	Declaration of Conformity	CE	Philips	Yes	D+8 weeks
EUROPE	E	European Electromagnetic Compatibility Directive 89/336/EEC amended by the directive 93/68/EEC, 2007/108/EC. EN 55022:1998 +A1,A2 Class B EN 55024: 1998 +A1, A2 EN 61000-3-2: 2000 EN 61000-3-3:1995+A1(2001),4-2,4-3 and 4-4 EN55013: 2001 EN55020: 2002	Declaration of Conformity and Full EMC/CE test report		Supplier	Yes	D+8 wees
EUROPE	O	EN 50049 (SCART)	Certificate of Conformity and/or test report		Supplier	Yes	TPV provide report only
RUSSIA	Sa	IEC60065/A1: national differences of all countries	GOST certificate	PCT AR46	Philips	Yes	D+12 weeks

Downloaded from www.Manualslib.com manuals search engine

RUSSIA	E	EN 55022:1998 +A1,A2 Class B EN 55024: 1998 +A1, A2 EN 61000-3-2: 2000 EN 61000-3-3:1995+A1(2001), 4-2, 4-3 and 4-4 EN55013: 2001 EN55020: 2002	GOST certificate		Philips		D+12 weeks
Switzerland	Sa	IEC60065/A1: national differences of all countries	S+ PZ1 certificate	S PZ1	Supplier	Optional	D+14 weeks
Switzerland	E	EN 55022:1998 +A1,A2 Class B EN 55024: 1998 +A1, A2 EN 61000-3-2: 2000 EN 61000-3-3:1995+A1(2001), 4-2, 4-3 and 4-4 EN55013: 2001 EN55020: 2002	S+ PZ1 certificate				
Switzerland	O	EMF EN 62311	Certificate of Conformity and/or test report		Supplier		D+8 weeks
Eastern Europe	Sa	IEC60065/A1: national differences of all countries	Certificate of Conformity		Philips	Yes	by Philips
Eastern Europe	E	EN 55022:1998 +A1,A2 Class B EN 55024: 1998 +A1, A2 EN 61000-3-2: 2000 EN 61000-3-3:1995+A1(2001), 4-2, 4-3 and 4-4 EN55013: 2001 EN55020: 2002	Certificate of Conformity		Philips		by Philips

Downloaded from www.Manualslib.com manuals search engine

Italy	Sa	!EC60065/A1: national differences of all countries	Certificate of Conformity	**MINISTERO P.T XXXXXX/XXX XXX/X/X (D.M.26.3.92)**	Supplier	Yes	D+12 weeks
Italy	E	EN 55022:1998 +A1,A2 Class B EN 55024: 1998 +A1, A2 EN 61000-3-2: 2000 EN 61000-3-3:1995+A1(2001), 4-2, 4-3 and 4-4 EN55013: 2001 EN55020 :2002	Certificate of Conformity		Supplier		D+12 weeks
	O	WEEE	WEEE report and /or declaration		Philips but supplier need provide WEEE report and /or declaration	Yes	
UK (DTG)	O		Certification	digital This logo does not on rating label	Supplier (?)	Yes	

Downloaded from www.Manualslib.com manuals search engine

96 **Meridian 1**

Sweden (Boxer)	O		Certification	This logo does not on rating label	Supplier (?)	Yes	

Sa = Safely

E = Electromagnetic Compatibility

O = Other which including recycling, energy saving ergonomics

Remark:

2. All documents and samples provide by supplier even applicant by Philips
3. HDMI has to connect PC and pass EMC test
4. TV EMC test need to conduct in accredited lab which certificated documents need get approval by Philips NSO in France and MMD Taiwan
5. Both portrait and landscape function if provide then need to be tested in safely / EMC
6. Philips's own CB report and it has to be readied after DTV exit 4 weeks.
7. Even Philips is applicant: suppliers need fill in approbation start date which based on supplier all documents and samples ready and ship / e-mail to Philips and / or Philips NSO
8. To Switzerland each approbation cost need about 3000 CHF, it charge to supplier
9. The set and AC adapter (if provide) have to meet California Energy Commission requirements. To AC adapter has to meet table U-2 (power efficiency IV) effective January 1, 2008
10. All approbation responsibility by supplier to even approbation need Philips Local NSO to support to get it then approbation samples, shipping cost, test fee and approbation fee have to pay by supplier.
11. Based on our sales region all mandatory approbations need to apply even current without listing in our approbation plan.
12. AC adapter if provide then based on our sales region to do all mandatory approbations in advance.

Downloaded from www.Manualslib.com manuals search engine

9.2 EMC Requirements

Supplier DVT EMI test result must be submitted prior to DVT samples delivery, and PVT EMI test result must be submitted again prior to PVT samples delivery, which also has to meet Philips' immunity testing specification.

9.3 RoHS

Restriction on the use of certain hazardous substances
Lead, Cadmium, Mercury, Hexavalent Chromium, Polybrominated Bipheny1 (PBB) and Polybrominated Bipheny1 Ether (PBDE) (flame retardant).

9.4 WEEE

Producer (Philips) responsible for retailer takes back schemes and recycling.
--System implemented.
--Collection and recycle targets.

9.5 Ongoing Regulatory

There's a possibility

Downloaded from www.Manualslib.com manuals search engine

TELEVISION/MONITOR SAFFTY GUIDELINES FOR THE PROFESSIONAL SERVICE TECHNICIAN

Safety Checks
After the original service problem has been corrected,a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition,which could be unknowingly passed on to your customer. Be sure to check all of the following:

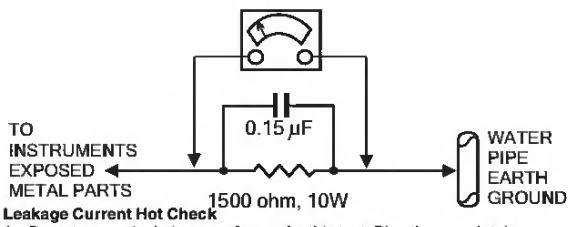
Fire and Shock Hazard
1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barries, covers, strain reliefs, and other hardware have been installed in accordance with the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints,solder splashes,sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord).Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout,lead length, and dress.
5. No lead or component should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with ans by the Ref. No. in the parts list and enclosed within a broken line * (where several critical components are grouped in one area) along with the safety symbols on the schematic diagrams and/or exploded views.
7. When servicing any unit, always use a separate isolation transformer for the chassis Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug.) Defeating this safety feature may create a potential hazard to the service and the user. Extension cords which do not incorporate the polarizing feature should never be used.
9. After reassembly of the unit, always perform an leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also check all metal control shafts(with knobs removed), antenna terminals, handles, screws, etc. to be sure the unit may be safety operated without danger of electrical shock.

* Broken line

Implosion
1. All picture tubes used in current model receivers are equipped with an integral implosion system. Care should always be used, and safety glasses worn,whenever handling any picture tube. Avoid scratching or otherwise damaging the picture tube during installation.
2. Use only replacement tubes specified by the manufacturer.

X-radiation
1. Be sure procedures and instructions to all your service personnel cover the subject of X-radiation. Potential sources of X-rays in TV receivers are the picture tube and the high voltage circuits. The basic precaution which must be exercised is to keep the high voltage at the factory recommended level.
2. To avoid possible exposure to X-radiation and electrical shock, only the manufacturer's specified anode connectors must be used.
3. It is essential that the service technician has an accurate HV meter available at all times. The calibration of this meter should be checked periodically against a reference standard.
4. When the HV circuitry is operating properly there is no possibility of an x-radiation problem. High voltage should always be kept at the manufacturer's rated value-no higher - for optimum performance. Every time a color set is serviced, the brightness should be run up and down while monitoring the HV with a meter to be certain that the HV is regulated correctly and does not exceed the specified value. We suggest that you and your technicians review test procedures so that HV and HV regulation are always checked as a standard servicing procedure, and the reason for this prudent routine is clearly understood by everyone. It is important to use an accurate and reliable HV meter. It is recommended that the HV recorded on each customer's invoice, which will demonstrate a proper concern for the customer's safety.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, reduce the line voltage by means of a Variac to bring the HV into acceptable limits while troubleshooting. Do not operate the chassis longer than necessary to locate the cause of the excessive HV.
6. New picture tubes are specifically designed to withstand higher operathng voltages without creating undesirable X-radiation. It is strongly recommended that any shop test fixture which is to be used with the new higher voltage chassis be equipped with one of the new type tubes designed for this service. Addition of a permanently connected HV meter to the shop test fixture is advisable. The CRT types used in these new sets should never be replaced with any other types, as this may result in excessive X-radiation.
7. It is essential to use the specified picture tube to avoid a possible X-diation problem.
8. Most TV receivers contain some type of emergency "Hold Down" circuit to prevent HV from rising to excessive levels in the presence of a failure mode. These various circuits should be understood by all technicians servicing them, especially since many hold down circuits are inoperative as long as the receiver performs normally.

Leakage Current Cold Check
1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.



Leakage Current Hot Check
1. Do not use an isolation transformer for this test. Plug the completely reassembled receiver directly into the ac outlet.
2. Connect a 1.5k, 10w resistor paralleled by a 0.15uf. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamps. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed.(Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

Picture Tube Replacement
The primary source of X-radiation in this television receiver is the picture tube. The picture tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter, or a Philips approved type.

Parts Replacement
Many electrical and mechanical parts in Philips television sets have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards

WARNING: Before removing the CRT anode cap, turn the unit **OFF** and short the HIGH VOLTAGE to the CRT DAG ground.
SERVICE NOTE: The CRT DAG is not at chassis ground.

Downloaded from www.Manualslib.com manuals search engine